



## Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 409

Date of review: September 3, 2019

### 1 Identification of substance and company

**Product name:** **Rhenium (VII) oxide**  
**Product code:** 12199  
**Relevant use and restrictions on use:** Research and product development  
**Manufacturer/Supplier:** Noah Technologies Corporation  
1 Noah Park  
San Antonio, Texas 78249-3419  
Phone: 210-691-2000  
Fax: 210-691-2600  
Web site: www.noahtech.com  
**Emergency information:** CHEMTREC  
800-424-9300

### 2 Hazards identification

**Emergency Overview:**

**Pictogram(s):**



**Signal word(s):**

Danger

**Hazard statements:**

H314 Causes severe skin burns and eye damage

**Precautionary statements:**

P260 Do not breathe dust or mist  
P264 Wash skin thoroughly after handling  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection  
P301+330+331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303+361+353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/ physician  
P321 Specific treatment (see supplemental first aid instructions on this label)  
P363 Wash contaminated clothing before reuse  
P405 Store locked up  
P501 Dispose of contents/ container to an approved waste disposal plant

**GHS Classification:**

Skin corrosion - 1B  
Eye damage - 1

**Hazards not otherwise classified:**

None

**HMIS ratings (scale 0-4):**

Health hazard: 3  
Flammability: 0  
Physical hazard: 0

### 3 Composition/Information on ingredients

**Chemical name:** Rhenium (VII) oxide  
**Designation:**  
**CAS number:** 1314-68-7  
**EC number:** 215-241-9  
**Formula:** Re<sub>2</sub>O<sub>7</sub>  
**Synonyms:** Rhenium heptoxide, dirhenium heptoxide

### 4 First aid measures

**After inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical advice

<b>After skin contact:</b>	Instantly wash with water and soap and rinse thoroughly Seek immediate medical advice
<b>After eye contact:</b>	Rinse opened eye for at least 15 minutes under running water. Assure adequate flushing by separating the eyelids with fingers. Seek immediate medical advice
<b>After ingestion:</b>	If conscious, rinse mouth out with water and seek immediate medical advice. Never give anything by mouth to an unconscious individual.
<b>Information for doctor:</b>	Show this safety data sheet to the doctor in attendance
<b>Symptoms/effects; acute and delayed:</b>	Coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis
<b>Immediate medical attention and special treatment needed:</b>	Severe sedation and ataxia, tonic convulsions and cardiovascular collapse

#### 5 Fire-fighting measures

<b>Suitable and unsuitable extinguishing agents:</b>	Use extinguishing media most suitable to surrounding fire conditions
<b>Special hazards caused by the material, its products of combustion or resulting gases:</b>	In case of fire, the following can be released: Oxides of rhenium
<b>Special fire fighting procedures:</b>	Wear SCBA Always wear fully protective fire fighting equipment/clothing in fire situations
<b>Unusual fire and explosion hazard:</b>	This substance may act as an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition

#### 6 Accidental release measures

<b>Person-related safety precautions:</b>	Wear personal protective equipment. Keep unprotected persons away. Ensure adequate ventilation
<b>Measures for environmental protection:</b>	Do not allow material to be released to the environment without proper governmental permits Dispose of contaminated material as waste according to item 13
<b>Measures for cleaning/collecting:</b>	Ventilate and wash spill site after material removal is complete
<b>Additional information:</b>	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information

#### 7 Handling and storage

<b>Information for safe handling:</b>	Keep containers tightly sealed Store in cool, dry place in tightly closed containers Ensure good ventilation/exhaustion at the workplace
<b>Information about protection against explosions and fires:</b>	No data available
<b>Storage requirements to be met by storerooms and containers:</b>	No special requirements
<b>Incompatibility (avoid contact with):</b>	Strongly hygroscopic. Keep in a dry place.
<b>Further information about storage conditions:</b>	Keep container tightly sealed Store in cool, dry conditions in well sealed containers Keep from contact with clothing and other combustible materials

#### 8 Exposure controls/personal protection

<b>Ventilation requirements:</b>	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute
<b>Components with exposure limits that require monitoring:</b>	No data available
<b>Additional information:</b>	No data available
<b>General protective and hygienic measures:</b>	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
<b>Personal protective equipment:</b>	
<b>Respiratory protection:</b>	Use suitable respirator when high concentrations are present
<b>(Use only NIOSH or CEN approved Equipment)</b>	Use only NIOSH/MESA or CEN approved respirators
<b>Hand protection:</b>	Impervious gloves. Check protective gloves prior to each use for their proper condition.
<b>Eye protection:</b>	Safety glasses
<b>Skin protection:</b>	Protective work clothing Sufficient to prevent contact
<b>Additional protective equipment:</b>	Emergency eyewash and safety shower

## 9 Physical and chemical properties

<b>Physical state:</b>	Crystalline powder
<b>Color:</b>	Yellow to green
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	No data available
<b>Molecular Weight (Calculated):</b>	484.4
<b>pH</b>	No data available
<b>Melting point/freezing point/range:</b>	220 C
<b>Boiling point/range:</b>	360 C
<b>Sublimation temperature/start:</b>	No data available
<b>Decomposition temperature:</b>	No data available
<b>Flammability (solid, gas):</b>	Non-flammable but contact with combustible material may cause fire
<b>Flash point:</b>	Not applicable
<b>Autoignition temperature:</b>	Not applicable
<b>Danger of explosion:</b>	No data available
<b>Flammable limits:</b>	
<b>Lower:</b>	Not applicable
<b>Upper:</b>	Not applicable
<b>Evaporation Rate:</b>	No data available
<b>Vapor pressure (mm Hg):</b>	No data available
<b>Vapor density:</b>	No data available
<b>Specific gravity d<sup>20</sup>:</b>	6.103
<b>Bulk density:</b>	No data available
<b>Solubility in/Miscibility with water:</b>	Soluble
<b>Partition coefficient n-octanol/water:</b>	No data available
<b>Viscosity:</b>	No data available
<b>Other information:</b>	None

## 10 Stability and reactivity

<b>Reactivity:</b>	No decomposition if used and stored according to specifications See section 7 for information on proper handling and storage
<b>Chemical stability:</b>	Stable
<b>Possibility of hazardous reactions:</b>	The heat of reaction with reducing agents or combustibles may cause ignition
<b>Conditions to be avoided:</b>	Moisture (extremely hygroscopic)
<b>Materials to be avoided:</b>	Oxidizing agents
<b>Dangerous reactions:</b>	No data available
<b>Hazardous decomposition products: (thermal and other)</b>	Oxides of rhenium

## 11 Toxicological information

<b>LD/LC50 values that are relevant for classification:</b>	No data available
<b>Irritation or corrosion of skin:</b>	No data available
<b>Irritation or corrosion of eyes:</b>	No data available
<b>Sensitization:</b>	Not applicable
<b>Potential health effects:</b>	
<b>Inhalation:</b>	Causes burning sensation of the upper respiratory tract and mucous membranes
<b>Ingestion:</b>	Swallowing may lead to a corrosive effect on mouth and throat
<b>Skin:</b>	Causes moderate irritation
<b>Eyes:</b>	Causes redness, itching, burning sensation, watering and visual impairment
<b>Signs and symptoms of exposure:</b>	Harmful if ingested, inhaled or absorbed through the skin. Product causes irritation of the eyes, skin, upper respiratory tract and mucous membranes. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known
<b>Carcinogenicity:</b>	Not identified as a carcinogen

## 12 Ecotoxicological information

<b>Toxicity to fish:</b>	In high concentrations, this product may be harmful to both terrestrial and aquatic plant or animal life
<b>Toxicity to daphnia and other aquatic invertebrates:</b>	In high concentrations, this product may be harmful to both terrestrial and aquatic plant or animal life
<b>Toxicity to algae:</b>	In high concentrations, this product may be harmful to both terrestrial and aquatic plant or animal life
<b>Persistence and degradability:</b>	
<b>Biodegradability:</b>	No data available
<b>Bioaccumulative potential:</b>	
<b>Bioaccumulation:</b>	No data available
<b>Mobility in soil:</b>	No data available
<b>General:</b>	Do not allow material to be released to the environment without proper governmental permits Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system

### 13 Disposal considerations

**Recommendation:** Consult state, local or national regulation for proper disposal  
Allow professional disposal company to handle waste  
Must be specially treated under adherence to official regulations

**Unclean packagings recommendation:** Disposal must be made according to official regulations

### 14 Transport information

#### Land transport DOT



**Proper shipping name:** Corrosive solid, acidic, inorganic, n.o.s.  
**Technical name:** Rhenium (VII) oxide  
**DOT Hazard Class:** 8  
**Subsidiary risk:**  
**UN Identification number:** UN3260  
**Label(s):** Corrosive  
**Packing group:** III  
**North American Emergency Response Guidebook No.:** 154

#### Air transport ICAO-TI and IATA-DGR:



**Proper shipping name:** Corrosive solid, acidic, inorganic, n.o.s.  
**Technical name:** Rhenium (VII) oxide  
**DOT Hazard Class:** 8  
**Subsidiary risk:**  
**UN Identification number:** UN3260  
**Label(s):** Corrosive  
**Packing group:** III  
**North American Emergency Response Guidebook No.:** 154

#### UPS Ground / FedEx Ground



**Proper shipping name:** Corrosive solid, acidic, inorganic, n.o.s.  
**Technical name:** Rhenium (VII) oxide  
**DOT Hazard Class:** 8  
**Subsidiary risk:**  
**UN Identification number:** UN3260  
**Label(s):** Corrosive  
**Packing group:** III  
**North American Emergency Response Guidebook No.:** 154

#### UPS Air



**Proper shipping name:** Corrosive solid, acidic, inorganic, n.o.s.  
**Technical name:** Rhenium (VII) oxide  
**DOT Hazard Class:** 8  
**Subsidiary risk:**  
**UN Identification number:** UN3260  
**Label(s):** Corrosive  
**Packing group:** III  
**North American Emergency Response Guidebook No.:** 154

#### 15 Regulatory information

<b>SARA Section 302 Extremely Hazardous components and corresponding TPQs:</b>	Not subject
<b>SARA Section 311 / 312 hazards:</b>	Acute Health Hazard
<b>SARA Section 313 components:</b>	Not subject
<b>California Proposition 65 components:</b>	Not subject
<b>TSCA:</b>	This product is registered with TSCA Inventory

#### 16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.