

MATERIAL SAFETY DATA SHEET

Rhenium

Version No. 1.0 **SDS reference number:** XXX
Initial issue date: XX-XX-XXXX **Revision date:** XX-XX-XXXX

SECTION 1. IDENTIFICATION OF SUBSTANCE/ MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 PRODUCT IDENTIFIER

SUBSTANCE NAME: **RHENIUM**

EC No.: 231-124-5

IUPAC NAME: Rhenium (2+)

REACH REGISTRATION No.: **TO BE ADDED BY COMPANY**

CAS No.: 7440-15-5

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

RELEVANT IDENTIFIED USES: Formation of fabricated metal products (SU 14, SU 15)
Manufacture of alloys (SU 14, SU 17),
Manufacture of computer, electronic and optical products, electronic equipment (SU 14, SU 16)

USES ADVISED AGAINST: None identified

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET: **TO BE ADDED BY COMPANY**

MANUFACTURER/SUPPLIER:

ADDRESS:

COUNTRY:

TELEPHONE NUMBER:

FAX NUMBER:

EMAIL ADDRESS OF COMPETENT PERSON RESPONSIBLE FOR THE SDS:

1.4 EMERGENCY TELEPHONE NUMBER: **TO BE ADDED BY COMPANY**

SECTION 2. HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

2.1.1 CLASSIFICATION ACCORDING TO REGULATION (EC) No 1272/2008 (CLP/GHS)

Not classified.

2.1.2 CLASSIFICATION ACCORDING TO EC DIRECTIVE 67/548/EEC

Not classified.

2.1.3 ADDITIONAL INFORMATION

2.2 LABEL ELEMENTS:

Labelling in accordance with Regulation EC No 1272/2008 (CLP)

PICTOGRAM(S):	None required
SIGNAL WORD:	None required
HAZARD STATEMENT(S):	None required
PRECAUTIONARY STATEMENT(S):	None required

2.3 OTHER HAZARDS

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS-No	EINECS/ELINCS	WEIGHT % CONTENT
Rhenium	7440-15-5	231-124-5	99.9% (w/w)

SECTION 4. FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

GENERAL NOTES:	In case of accident or if you feel unwell, seek medical advice immediately.
FOLLOWING INHALATION:	Supply fresh air; consult doctor in case of complaints.
FOLLOWING SKIN CONTACT:	Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.
FOLLOWING EYE CONTACT:	Rinse opened eye for several minutes under running water. Seek immediate medical advice.
FOLLOWING INGESTION:	Rinse out mouth. Seek medical advice.
SELF PROTECTION OF THE FIRST AIDER	No data
4.2 MOST IMPORTANT EFFECTS/SYMPTOMS:	No data
4.3 IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:	No data

SECTION 5. FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:	CO ₂ , powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:	No special hazards known.
5.3 ADVICE FOR FIRE FIGHTERS	Wear self-contained respiratory protective device. Wear fully protective suit. No special measures required.
ADDITIONAL INFORMATION:	Collect contaminated firefighting water separately. It must not enter the sewage system.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:	The usual precautionary measures are to be adhered to when handling chemicals. Wear protective equipment. Keep unprotected persons away. Avoid formation of dust. Use respiratory protective device against the effects of dust.
6.2 ENVIRONMENTAL PRECAUTIONS:	Do not allow to enter sewers/surface or ground water. Do not allow to penetrate the ground/soil.
6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:	Pick up mechanically. Prevent formation of dust. Send for recovery or disposal in suitable receptacles.
6.4 REFERENCE TO OTHER SECTIONS:	See section 8 for personal protective equipment.

SECTION 7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING PROTECTIVE MEASURES:	The usual precautionary measures are to be adhered to when handling chemicals. Wear protective equipment. Keep unprotected persons away. Prevent formation of dust.
INFORMATION ABOUT FIRE- AND EXPLOSION PROTECTION:	The product is not combustible.
7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: REQUIREMENTS TO BE MET BY STOREROOMS AND VESSELS:	Store in a cool location.
INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY:	Not required.
FURTHER INFORMATION ABOUT STORAGE CONDITIONS:	Keep container tightly sealed. Store in dry conditions.
7.3. SPECIFIC END USE(S):	Formation of fabricated metal products Manufacture of alloys Manufacture of computer, electronic and optical products, electronic equipment

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROLS PARAMETERS:

DNELS	WORKERS				CONSUMERS			
	ACUTE EFFECT LOCAL	ACUTE EFFECT SYSTEMIC	CHRONIC EFFECT LOCAL	CHRONIC EFFECT SYSTEMIC	ACUTE EFFECT LOCAL	ACUTE EFFECT SYSTEMIC	CHRONIC EFFECT LOCAL	CHRONIC EFFECT SYSTEMIC
ROUTE OF EXPOSURE								
Oral	Not required				No data	No data	No data	No data
Inhalation	No data	No data	No data	No data	No data	No data	No data	No data
Dermal	No data	No data	No data	No data	No data	No data	No data	No data

PNECs

Freshwater	No data
Freshwater sediment	No data
Marine water	No data
Marine sediment	No data
Intermittent releases	No data

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

STP	No data
Soil	No data
Air	No data
Secondary poisoning	No data
8.2 EXPOSURE CONTROLS:	
8.2.1 APPROPRIATE ENGINEERING CONTROLS:	Ensure good ventilation/exhaustion at the workplace.
8.2.2 PERSONAL PROTECTION:	The usual precautionary measures are to be adhered to when handling chemicals.
a) EYE PROTECTION:	Safety glasses.
b) SKIN PROTECTION:	Protective gloves, material of gloves: Nitrile rubber. Penetration time of glove material: >480 min (Thickness of glove material: 0.11 mm)
c) RESPIRATORY PROTECTION:	Use respiratory protective device against the effects of dust. Filter P3.
d) BODY PROTECTION:	Protective work clothing

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Solid
COLOUR:	Silver-gray
ODOUR:	No data
pH:	2.1 (0.1% aqueous solution)
BOILING POINT AND BOILING RANGE:	5596°C at 101.325 kPa
MELTING/FREEZING POINT:	3185°C at 101.325 kPa
FLASH POINT:	Not applicable
FLAMMABILITY:	Non-flammable
EVAPORATION RATE:	No data
VAPOUR PRESSURE:	Not applicable
DENSITY:	20.8 g/cm ³ at 20°C
WATER SOLUBILITY:	At a loading rate of 100 mg/L. average dissolution was 0.338 mg/L at pH 6 and 0.39 mg/L at pH 8 at 21°C (OECD 29 Transformation dissolution study)
PARTITION COEFFICIENT: N-OCTANOL/WATER:	Not applicable
AUTO-IGNITION TEMPERATURE:	280°C at 101.325 kPa
DECOMPOSITION TEMPERATURE:	No data
VISCOSITY:	Not applicable
EXPLOSIVE PROPERTIES:	Not explosive
OXIDISING PROPERTIES:	Not oxidising

9.2 OTHER INFORMATION:

SECTION 10. STABILITY AND REACTIVITY

10.1 REACTIVITY:	TO BE ADDED BY COMPANY
10.2 CHEMICAL STABILITY:	TO BE ADDED BY COMPANY
10.3 POSSIBILITY OF HAZARDOUS REACTIONS:	TO BE ADDED BY COMPANY
10.4 CONDITIONS TO AVOID:	No decomposition is used according to specifications.
10.5 INCOMPATIBLE MATERIAL:	TO BE ADDED BY COMPANY
10.6 HAZARDOUS DECOMPOSITION PRODUCTS:	No dangerous decomposition products known.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS	
ACUTE TOXICITY:	No data
SKIN IRRITATION OR CORROSION:	No data
SERIOUS EYE DAMAGE/IRRITATION:	No data
RESPIRATORY OR SKIN SENSITISATION:	No data
MUTAGENICITY:	No data
CARCINOGENICITY:	No data
REPEATED DOSE TOXICITY:	No data
REPRODUCTIVE TOXICITY:	No data

SECTION 12. ECOLOGICAL INFORMATION

12.1 TOXICITY:					
ACUTE TOXICITY:	Algae (OECD 201, <i>D. subspicatus</i>):	ErC50	72 h	155.25	mg/L
	Invertebrates (OECD 202, <i>D. magna</i>):	EC50	48 h	>68.16	mg/L
	Fish:	No data			
	Microorganisms:	No data			
	Other organisms:	No data			
CHRONIC TOXICITY:	Algae (OECD 201, <i>D. subspicatus</i>):	NOEC	72 h	34.08	mg/L
	Ecotoxicity results are read across from sodium rhenate, and results expressed as concentration of rhenium.				
12.2 PERSISTENCE AND DEGRADABILITY:	Not applicable				
12.3 BIOACCUMULATIVE POTENTIAL:	No data				
12.4 MOBILITY IN SOIL:	No data				
12.5 PBT/vPvB ASSESSMENT:	Not applicable				

SECTION 12. ECOLOGICAL INFORMATION

12.6 OTHER ADVERSE EFFECTS:

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS:

13.1.1 PRODUCT DISPOSAL: Contact manufacturer for recycling information. Disposal must be made according to official regulations.

13.1.2 PACKAGING DISPOSAL: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

14.1 UNITED NATIONS (UN) NUMBER: Not classified for transport (ADR/RID, IMDG, ICAO/IATA)

14.2 UN PROPER SHIPPING NAME: Not applicable (ADR/RID, IMDG, ICAO/IATA)

14.3 TRANSPORT HAZARD CLASS(S): Not applicable (ADR/RID, IMDG, ICAO/IATA)

14.4 PACKING GROUP: Not applicable (ADR/RID, IMDG, ICAO/IATA)

14.5 ENVIRONMENTAL HAZARDS: The product should not be marked as a marine pollutant.

14.6 SPECIAL PRECAUTIONS FOR USER: Not applicable (ADR/RID, IMDG, ICAO/IATA)

14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE: Not applicable (ADR/RID, IMDG, ICAO/IATA)

SECTION 15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS: The product is classified in accordance with EC Regulation 1272/2008 (CLP).

15.2 CHEMICAL SAFETY ASSESSMENT: Not applicable

SECTION 16. OTHER INFORMATION

FURTHER INFORMATION: The SDS has been revised in accordance with EC Regulation 1272/2008 (CLP)

SOURCES OF DATA: IUCLID dataset

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