



Alpha Chemika



ISO 9001 QUALITY SYSTEM CERTIFIED ORGANIZATION

MATERIAL SAFETY DATA SHEET

MSDS

Savgan Heights ; 102 ,B Wing ; R.T.O. Lane ,Andheri (West) Mumbai - 400053 , INDIA

Section 1 - Chemical Product and Company Identification

Product Name : RUTHENIUM TRICHLORIDE

Synonyms:

CAS No.: 14898-67-0

Molecular Weight: 207.43

Chemical Formula: $\text{Cl}_3\text{Ru} \cdot x\text{H}_2$

Section 2 - Composition, Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Ruthenium Trichloride	14898-67-0	98-100%	Yes

Section 3 - Hazardous Identification

Risk advice to man and the environment

Causes burns.

Section 4 - First Aid Measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5 - Fire Fighting Measures

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Section 6 - Accidental Release Measures

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

Section 7 - Handling and Storage

Handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
hygroscopic

Section 8 - Exposure Controls, Personal Protection

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9 - Physical and Chemical Properties

Appearance

Form powder

Colour dark grey

Safety data

pH no data available

Melting point no data available

Boiling point no data available

Flash point not applicable
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Water solubility no data available

Section 10 - Stability and Reactivity

Storage stability

Stable under recommended storage conditions.

Materials to avoid

Zinc

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Ruthenium oxide

Section 11 - Toxicological Information

Acute toxicity

no data available

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

Potential Health Effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin May be harmful if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Ingestion May be harmful if swallowed. Causes burns.

Section 12 - Ecological Information

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

Section 13 - Disposal Considerations

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

Section 14 - Transport Information

ADR/RID

UN-Number: 3260 Class: 8 Packing group: II

Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Ruthenium(III) chloride hydrate)

IMDG

UN-Number: 3260 Class: 8 Packing group: II EMS-No: F-A, S-B

Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Ruthenium(III) chloride hydrate)

Marine pollutant: No

IATA

UN-Number: 3260 Class: 8 Packing group: II

Proper shipping name: Corrosive solid, acidic, inorganic n.o.s. (Ruthenium(III) chloride hydrate)

Section 15 - Regulatory Information

Labelling according to EC Directives

Hazard symbols

C Corrosive

R-phrases)

R34 Causes burns.

S-phrases)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Section 16 - Additional Information

Not Regulated