



SECTION 1: Product Identification

Chemical Name:	Ruthenium (IV) oxide, anhydrous (99.9+%-Ru)
Product Number:	404
CAS Registry Number:	12036-10-1
Formula:	RuO ₂
EINECS Number:	234-840-6
Chemical Family:	metal oxide
Synonym:	ruthenium dioxide

SECTION 2: Composition and Information on Ingredients

Ingredient	CAS Number	Percent	ACGIH (TWA)	OSHA (PEL)
Title Compound	12036-10-1	100	no data	no data

SECTION 3: Hazards Identification

Emergency Overview:	May be irritating to skin and eyes and respiratory tract.
Primary Routes of Exposure:	Ingestion, inhalation
Eye Contact:	May be a mild to severe irritant to the eyes.
Skin Contact:	May cause slight to mild irritation of the skin.
Inhalation:	Do not breath dust. Inhalation of powder may lead to irritation of the respiratory tract.
Ingestion:	No information available on the effects of ingestion.
Acute Health Effects:	May be irritating to skin, eyes, mucous membranes and respiratory tract. Do not breath dust.
Chronic Health Effects:	No information available on long-term chronic effects.
NTP:	No
IARC:	No
OSHA:	No



SECTION 4: First Aid Measures

Eye Exposure:	Immediately flush the eyes with copious amounts of water for at least 10-15 minutes. A victim may need assistance in keeping their eye lids open. Get immediate medical attention.
Skin Exposure:	Wash the affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.
Inhalation:	Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.
Ingestion:	Seek medical attention immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5: Fire Fighting Measures

Flash Point:	not applicable
Autoignition Temperature:	none
Explosion Limits:	none
Extinguishing Medium:	None. Material is non-flammable.
Special Fire Fighting Procedures:	No special fire-fighting procedures. The material is non-flammable.
Hazardous Combustion and Decomposition Products:	No hazardous combustion or decomposition products.
Unusual Fire or Explosion Hazards:	No unusual fire or explosion hazards.

SECTION 6: Accidental Release Measures

Spill and Leak Procedures:	Small spills can be mixed with vermiculite or sodium carbonate and swept up.
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SECTION 7: Handling and Storage

Handling and Storage:	Store in cool, dry place in tightly closed containers.
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SECTION 8: Exposure Controls and Personal Protection

Eye Protection:	Always wear approved safety glasses when handling a chemical substance in the laboratory.
Skin Protection:	Wear appropriate chemical resistant gloves and protective clothing.
Ventilation:	Material may form a fine dust. If possible, handle the material in an efficient fume hood.
Respirator:	If ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.
Additional Protection:	No additional protection required.

SECTION 9: Physical and Chemical Properties

Color and Form:	black powdr.
Molecular Weight:	133.07
Melting Point:	dec.
Boiling Point:	no data
Vapor Pressure:	no data
Specific Gravity:	6.97
Odor:	none
Solubility in Water:	insoluble

SECTION 10: Stability and Reactivity

Stability:	air and moisture stable solid
Hazardous Polymerization:	no hazardous polymerization
Conditions to Avoid:	none
Incompatibility:	active metals
Decomposition Products:	none

SECTION 11: Toxicological Information



RTECS Data: Oral (rat); LD50: 4580 mg/kg. Inhalation (rat); LCLo: 34 mg/m³. Oral (mouse); LD50: 5570 mg/kg. Intraperitoneal (mouse); LD50: 3050 mg/kg. Inhalation (rat); TCLo: 21400 ug/m³/17W-I. Inhalation (guinea pig); TCLo: 21400 ug/m³/17W-I.

Carcinogenic Effects: No data available

Mutagenic Effects: No data available

Teratogenic Effects: No data available

SECTION 12: Ecological Information

Ecological Information: No information available

SECTION 13: Disposal Considerations

Disposal: Dispose of according to local, state and federal regulations.

SECTION 14: Transportation

Shipping Name (CFR): Non-hazardous

Hazard Class (CFR): NA

Additional Hazard Class (CFR): NA

Packaging Group (CFR): NA

UN ID Number (CFR): NA

Shipping Name (IATA): Non-hazardous

Hazard Class (IATA): NA

Additional Hazard Class (IATA): NA

Packaging Group (IATA): NA

UN ID Number (IATA): NA

SECTION 15: Regulatory Information



TSCA: Listed in the TSCA inventory.

SARA (Title 313): Title compound not listed.

Second Ingredient: none

Third Ingredient: none