

## Safety Data Sheet

### 1. Product and company identification

Product name : Ruthenium (IV) oxide  
Name of manufacturer : KANTO CHEMICAL CO., INC.  
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, Japan  
Name of section : Reagent division, catalog and products information section  
Telephone number : +81-3-6214-1090  
Facsimile number : +81-3-3241-1047  
Mail address : BC32@gms.kanto.co.jp  
SDS No. : 36534

### 2. Summary of danger and Hazard

#### GHS classification

##### Physical and chemical hazard

Flammable solids : Out of category  
Pyrophoric solids : Out of category

##### Human health hazard

Skin corrosion • Irritation : Out of category  
Serious eye damage • Eye irritation : Out of category

### 3. Composition/Information on ingredients

Substance/Mixture : Substance  
Chemical name or commercial name : Ruthenium (IV) oxide

#### Ingredients and composition

: Ruthenium (IV) oxide min. 99.9%  
Chemical formula : RuO<sub>2</sub>  
CAS No. : 12036-10-1  
TSCA Inventory : Registered  
EINECS No. : 2348406

### 4. First aid measures

Inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.  
Skin contact : Wash the affected areas under running water.  
Eye contact : Wash the affected areas under running water.  
Ingestion : Give the victim water or salt water and induce vomiting. If necessary, get medical attention.

### 5. Fire fighting measures

Extinguishing media : This product is noncombustible.  
Prohibited extinguishing media

: None

Particular fire fighting : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Protection for firefighters  
: Firefighters should wear protective equipment.

6. Accidental release measures

Cautions for personnel : Wear proper equipment and avoid contact with skin and inhalation of dust. Keep away personnel except for authorized ones from spillage area by stretching ropes.

7. Cautions of handling and storage

Handling

Engineering measures : If necessary, wear proper protective equipment not to contact with skin or inhale the dust.

Storage

Adequate storage condition  
: Store in a dark, cool place and tightly closed.

Safety adequate container materials  
: Glass, polyethylene, polypropylene

8. Exposure control/Personal protection

Engineering measures : Use only with adequate ventilation and in closed systems.

Control parameters

ACGIH(2009) : Not established

Protective equipment

Respiration protective equipment  
: If necessary, wear dust mask

Hands protective equipment  
: Impervious protective gloves

Eyes protective equipment  
: Safety goggles

9. Physical and chemical properties

Appearance : Powder  
Color : Dark red - blue black  
Odor : Odorless  
Boiling point : Not available  
Melting point : Not available  
Specific gravity : 4.67g/cm<sup>3</sup> (20°C)  
Solubility  
Solubility in solvents : Water ; Insoluble

10. Stability and reactivity

Stability : Stable under normal usage.

Reactivity : Nothing particular

11. Toxicological information

Acute toxicity : Oral : Not possible to classify because of insufficient data.  
Dermal : Not possible to classify because of insufficient data.  
Inhalation(vapor) : Not possible to classify because of insufficient data.  
Inhalation(dust, mist) : Not possible to classify because of insufficient data.

Skin corrosiveness : Out of category  
Since causes slight irritation to the skin, it was set into out of category.

Irritation to skin, eyes : Out of category  
If contact with the eyes, causes irritation physically, it was classified into out of category.

Respiratory sensitization or Skin sensitization : Respiratory sensitization : Not possible to classify because of insufficient data.  
Skin sensitization : Not possible to classify because of insufficient data.

Mutagenicity : Not possible to classify because of insufficient data.

Carcinogenic effects : Not possible to classify because of insufficient data

Effects on the reproductive system : Not possible to classify because of insufficient data.

Specific target organ systemic toxicity single exposure : Not possible to classify because of insufficient data.  
If inhaled the dust, may cause irritation to nose, throat, respiratory tract, however, it is not possible to classify because of insufficient data.

Specific target organ systemic toxicity repeated exposure : Not possible to classify because of insufficient data.

Aspiration hazard : Not possible to classify because of insufficient data.

12. Ecological information

Ecotoxicity

Fish toxicity : Acute aquatic toxicity : Not possible to classify because of insufficient data.  
Chronic aquatic toxicity : Not possible to classify because of insufficient data.

Rediualbility and degradability : Non biodegradability

Ecorediualbility : Not available

13. Disposal consideration

Residual disposal : Bury in a landfill site approved for the disposal of chemical and hazardous wastes. Or entrust approved waste disposal companies with the disposal.

14. Transport information

UN class : It is not regulated under UN regulations.

15. Regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

References

Dangerous Properties of Industrial Materials, 6th ed. N. I. Sax Van Nostrand Reinhold Company (1984)  
Handbook of 15710 Chemical Products, The Chemical Daily Co. (2010)  
ICSC Card (2009)

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet (SDS) is prepared based on JIS Z7253, and it has the same required elements on the Material Safety Data Sheet (MSDS) which is prepared based on JIS Z7250:2010.