

CANON OPTRON INC.
 SDS Number: E001
 Product Name: OA-100

SAFETY DATA SHEET

rev. 8.0 Date of Issue 2013/10/16
 Revised Date 2024/3/15

SECTION 1 Chemicals and company identification

Product name	OA-100
Product code	E001
Company name	CANON OPTRON INC.
Address	1744-1, Kanakubo, Yuki-shi, Ibaraki-ken, 307-0015 Japan
Section name	Sales Department
Telephone number	+81-296-21-3700
Fax number	+81-296-21-3770
Emergency telephone number	+81-296-21-3700
Use	Vacuum deposition material

SECTION 2 Hazards identification

GHS Classification (A classification by JIS Z 7252 "classification methods such as chemical substances based on GHS")

No data available

Label element

hazard Pictograms	No data available
Signal word	No data available
Dangerous goods hazard information	No data available

Precautionary statement

【Safety measures】
 Obtain special instructions before use.
 Wash hands thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Do not breathe dust/fume/gas/mist/vapours/spray.

【First-aid measures】
 If swallowed:
 Call a poison center or doctor/physician if you feel unwell.
 Rinse mouth.
 If in eyes:
 Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call poison center or doctor/physician

【Storage】
 Store in a well-ventilated place, keep container tightly closed.
 Store locked up.

【Disposal】
 Dispose of contents/container in accordance with national regulations.

【Other hazards】 -

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SECTION 3 Composition/information on ingredients

Substance/Mixture	Mixture	
Chemical name	Tantalum oxide	Tantalum
Chemical formula	Ta ₂ O ₅	Ta
Concentration or concentration range	Ta ₂ O ₅ : 78- 88% Ta : 12- 22% Total = 100%	
CAS No.	1314-61-0	7440-25-7
TSCA Inventory	Tantalum oxide (Ta ₂ O ₅)	Tantalum
EINECS number	215-238-2	231-135-5
Radioactive information	Radioactive substances are not used as the material. Therefore, there is no reason that ionizing radiation would be generated.	

SECTION 4 First aid measures

Inhalation	Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse affected areas with water/shower. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: : Get medical advice/attention.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse mouth. Get medical advice/attention.
Most important symptoms and effects, both acute and delayed	No data available
Protection of first aiders	Rescuers, wear suitable protective equipment as the situation demands.
Special precautions for physicians	No data available

SECTION 5 Firefighting measures

Suitable extinguishing media	This product itself is not flammable.
Unsuitable extinguishing media	No data available
Specific hazards	No data available
Specific extinguishing methods	In the case of a fire in the periphery, the portable container is quickly moved to a safe place.
Special protective equipment for firefighters	Wear suitable protective equipment (gloves, glasses and a mask) in fire-fighting.

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SECTION 6 Accidental release measures

Personal precautions, protective equipment, and emergency procedures	Protection equipment (specified as those in which the properties of the product are suitable) worn during operation so that airborne droplets, etc., do not adhere to the skin and dusts and gases are not absorbed.
Environmental precautions	The leakage may not directly flow into rivers or sewage.
Methods and material for containment and cleaning up	The leaked material is scooped up, or swept up and gathered to be recovered in a paper bag or a drum. After recovery, a small amount of the residue is absorbed in sediment, sawdust, etc.
Secondary disaster prevention measures	No data available

SECTION 7 Handling and storage

Precautions for safe handling

Technical measures	Take measures for equipment as described in "8. Exposure controls/personal protection" and wear protective equipment.
Safety handling precautions	Handling work must be practiced in a room where there is a local or total ventilation facility.
Avoidance of contact	Refer to "10. Stability and reactivity."
Hygiene measures	Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.
Conditions for safe storage, including any incompatibilities	
Safe storage conditions	Store in a well-ventilated place. Keep container tightly closed.
Safety packaging material	No data available

SECTION 8 Exposure controls/personal protection

	<u>Ta2O5</u>	<u>Ta</u>		
Permissible concentration				
ACGIH	<table border="1"> <tr> <td>TWA 5 mg/m³ (as Ta) (2004 edition)</td> <td>Unestablished (2015 version)</td> </tr> </table>		TWA 5 mg/m ³ (as Ta) (2004 edition)	Unestablished (2015 version)
TWA 5 mg/m ³ (as Ta) (2004 edition)	Unestablished (2015 version)			
Appropriate engineering controls	Use sealed devices, equipment, or a local exhaust ventilation as much as possible.			
Individual protection measures, such as personal protective equipment				
Respiratory protection	Dustproof mask			
Hand protection	Protective gloves			
Eye/face protection	Dust-proof glasses			

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Skin protection

Protective clothing

SECTION 9 Physical and chemical properties

Appearance

Physical state	Solid
Form	Pellets, granules
Colour	Gray
Odour	None

	<u>Ta₂O₅</u>	<u>Ta</u>
Melting point/freezing point	1862~1882°C	2996°C
Boiling point or initial boiling point and boiling range	No data available	5425°C
Flammability	No data available	No data available
Upper/lower flammability or explosive limits	No data available	No data available
Flash point	No data available	No data available
Auto-ignition temperature	No data available	> 250°C
Decomposition temperature	No data available	No data available
pH	No data available	No data available
Kinematic viscosity	No data available	No data available
Solubility		
Water	Insoluble	Insoluble
Other solvents	No data available	No data available
Partition coefficient: n-octanol/water	No data available	No data available
Vapour pressure	No data available	1 kPa (3,024°C)、10 Pa (3,324°C)、100 Pa (3,684°C)、1 kPa (4,122°C)、10 kPa (4,666°C)、100 kPa (5,361°C) (HSDB (2015))
Density and/or relative density (Density)	8.2 ※ 6.0 ~ 7.0 (pellet) as OA-100	No data available
Relative vapor density	No data available	No data available
Particle characteristics	No data available	No data available
Other information	No data available	No data available

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SECTION 10 Stability and reactivity

	Ta2O5	Ta
Reactivity	No data available	There might be the dust explosion with a minute particle. Nonflammable in bulk form.
Chemical stability	It is stable in storage conditions and normal handling.	No data available
Possibility of hazardous reactions	Violently react with bromine trifluoride. It reacts violently with chlorine trifluoride, emit flames. This occurs at around 410 °C, reaction with lithium increases to 595 °C.	It produce strong oxidizer, bromine trifluoride, fluorine and a dangerous reaction.
Conditions to avoid	No data available	No data available
Incompatible materials	Bromine trifluoride, chlorine trifluoride, lithium	No data available
Hazardous decomposition products	No data available	No data available

SECTION 11 Toxicological information

	Ta2O5	Ta
Acute toxicity(oral)	Oral – Rat LD50: 8g/kg, intraperitoneal – rat LD:> 5g/kg Oral – Mouse LD50:> 4g/kg	For a murine LD50 price the report (RTECS (Access on September 2015)) with 595 mg/kg But, there is it.
Acute toxicity(dermal)	No data available	No data available
Acute toxicity (Inhalation: Gases)	If inhaled, to stimulate the respiratory system and mucous membranes.	Solid (GHS definition)
Acute toxicity (Inhalation: Vapours)	No data available	Solid (GHS definition)
Acute toxicity (Inhalation: Dusts and mists)	No data available	No data available
Skin corrosion/irritation	No data available	No data available
Serious eye damage/irritation	No data available	No data available
Respiratory or skin sensitization	No data available	No data available
Germ cell mutagenicity	No data available	No data available

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Carcinogenicity	No data available	<p>There is a description that for local influence, 714 days after implantation of metal tantalum into the rats, there is a report that formation of malignant fibrosarcoma was found in 2 out of 50 sites, but objection and controversy occurred against the report (PATTY (6th, 2012)). In addition, there is also a report that for the evaluation of the safety of a novel medical material for implantation in the body, a group in which pellets of this substance were implanted into the bodies of rats (1 mm x 2 mm, cylindrical) was set as a negative control. Up to 20 pellets were intramuscularly implanted in rats, however, tumor development was not observed (PATTY (6th, 2012)). Regarding carcinogenicity of this substance, there are no classification results by other organizations. From the above, it was classified as "Classification not possible" due to lack of data for this hazard class.</p>
Reproductive toxicity	No data available	<p>Classification not possible due to lack of data. Besides, there is a report that 20 pellets of this substance, 1-2 mm, were implanted into the bodies of male rats, and they were observed for a period corresponding to about 21% of their lifetime, but no adverse effects on the fertility and the quality of sperm (concentration, motility) in males were seen (PATTY (6th, 2012)).</p>
Specific target organ toxicity(single exposure)	No data available	<p>Base on the description that this substance may be irritating to the respiratory tract (ACGIH (7th, 2001)), it was classified in Category 3 (respiratory tract irritation).</p>

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Specific target organ toxicity(repeated exposure)	No data available	Classification not possible due to lack of data. Besides, there is a report that the passivity of tantalum metal to biological tissues was sufficiently demonstrated by long-term use in surgical treatment in animals and humans (ACGIH (7th, 2001), DFGOT Vol.16 (2001), PATTY (6th, 2012)). In animals, it is reported that implantation of tantalum plates or screws did not cause inflammation and edema (ACGIH (7th, 2001), DFGOT Vol.16 (2001), PATTY (6th, 2012)), and there is a report that on the insertion of tantalum plates into the bones of dogs and rabbits for 3 weeks to 3 months, no evidence for irritation of the bone and soft tissue was seen in microscopic and X-ray examinations (ACGIH (7th, 2001), DFGOT Vol.16 (2001), PATTY (6th, 2012)). On the other hand, as one report showing a few effects, it is reported that in patients who had orbital implants, pain, headache, mucopurulent eye discharge, diffuse conjunctival inflammation, and erosion of tissues surrounding the implants were observed 10-15 years after the implantation (PATTY (6th, 2012)).
Aspiration hazard	No data available	No data available
Other information	No data available	

SECTION 12 Ecological information

	<u>Ta2O5</u>	<u>Ta</u>
Toxicity Hazardous to the aquatic environment Short-term(acute)	No data available	No data available
Hazardous to the aquatic environment Long-term(chronic)	No data available	No data available
Persistence and degradability	No data available	No data available
Bioaccumulative potential	No data available	No data available
Mobility in soil	No data available	No data available
Hazard to the ozone layer	No data available	No data available
Other adverse effects	No data available	No data available

SECTION 13 Disposal considerations

Waste treatment methods Process is contracted to industrial waste disposers who received approval of a prefectural governor.

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Contaminated container and
 contaminated packaging

The container is recycled after being cleaned, or is appropriately processed according to the standards of related laws and regulations.
 When disposing of empty containers, the contents should be completely removed.

SECTION 14 Transport information

	<u>Ta2O5</u>	<u>Ta</u>
International regulation		
UN number	Not applicable	Not applicable
UN proper shipping name	Not applicable	Not applicable
UN classification	Not applicable	Not applicable
Transport hazard class	Not applicable	Not applicable
Packing group	Not applicable	Not applicable
Hazardous to the aquatic environment	No data available	No data available
Maritime transport in bulk according to IMO instruments	No data available	No data available
Japanese laws and regulations	Land regulation information Not applicable Maritime regulatory information non-hazardous materials Aviation regulatory information non-hazardous materials	Refer to "15. Regulatory information."
Special precautions for users	No data available	Requires retention of yellow card when transporting. When transporting, protect from direct sunlight and take on cargo without breakage of container, corrosion and leakage. Do not stack heavy good thereupon.
Special Provisions	-	-

SECTION 15 Regulatory information (Japan)

	<u>Ta2O5</u>	<u>Ta</u>
Occupational Safety and Health Law	There is it in the case of an application or an application	There is it in the case of an application or an application
PRTR Law	Not applicable	Not applicable
Poisonous and Deleterious Substances control Law	Not applicable	Not applicable
Labor Standards Act	Not applicable	There is it in the case of an application or an application
Chemical substances control Law	Not applicable	Not applicable
Fire fighting Law	Not applicable	There is it in the case of an application or an application
Air Pollution Control Act	Not applicable	Not applicable

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Water Pollution Prevention Act	Not applicable	Not applicable
Water Supply Act	Not applicable	Not applicable
Sewerage Act	Not applicable	Not applicable
Marine Pollution Prevention Law	Not applicable	Not applicable
Waste Management and Public Cleansing Act	Not applicable	Not applicable
Note	Ensure this material in compliance with federal requirements and ensure conformity to local regulations.	

SECTION 16 Other information

The Safety Data Sheet (SDS) has been prepared based on currently available materials, information and data, and may be revised based on new information. Further, the important points in the SDS are made for the purpose of normal handling.

When handling the user product in a specialized manner, take the appropriate safety measures for the application or method.

Further, Canon Optron Inc. has paid sufficient attention to the described contents of the SDS, but does not guarantee the accuracy of its contents.

The SDS prepared by our company includes all findings from our investigation for reference. Not applicable to all items listed.

Literature Reference

[WEB site]

National Institute of Technology and Evaluation Homepage

Japan Advanced Information Center of Safety and Health Homepage

Ministry of Health, Labour and Welfare Homepage

[Regulatory review Tools]

ezCRIC+ (Japan Chemical Database Ltd)