

CANON OPTRON INC.

SDS Number: EO01

Product Name: OA-100

SAFETY DATA SHEET

rev. 7.2 Date of Issue 2014/9/1
Revised Date 2022/10/3

SECTION 1 Chemicals and company identification

Product name	OA-100
Product code	EO01
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	<i>Tantalum oxide</i>	<i>Tantalum</i>
Chemical formula	<i>Ta2O5</i>	<i>Ta</i>
Concentration or concentration range	Ta2O5 : 78- 88 Ta : 12- 22	
CAS No.	1314-61-0	7440-25-7
TSCA Inventory	<i>Tantalum oxide (Ta2O5)</i>	<i>Tantalum</i>
EINECS number	<i>215-238-2</i>	<i>231-135-5</i>
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>Ta205</u>	<u>Ta</u>
Permissible concentration		
ACGIH	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

	<u>Ta2O5</u>	<u>Ta</u>
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

	<u>Ta2O5</u>	<u>Ta</u>
Acute toxicity(oral)	Oral – Rat LD50: 8g/kg, intraperitoneal – rat LD ₅₀ : > 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

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 (PATY (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 (PATY (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.

Reproductive toxicity

No data available

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 (PATY (6th, 2012)).

Specific target organ toxicity(single exposure)

No data available

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).

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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

Ta2O5Ta

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 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

International regulation

	<u>Ta205</u>	<u>Ta</u>
UN number	<i>Not applicable</i>	<i>Not applicable</i>
UN proper shipping name	<i>Not applicable</i>	<i>Not applicable</i>
UN classification	<i>Not applicable</i>	<i>Not applicable</i>
Transport hazard class	<i>Not applicable</i>	<i>Not applicable</i>
Packing group	<i>Not applicable</i>	<i>Not applicable</i>
Hazardous to the aquatic environment	<i>No data available</i>	<i>No data available</i>
Maritime transport in bulk according to IMO instruments	<i>No data available</i>	<i>No data available</i>
Japanese laws and regulations	<i>Land regulation information Not applicable Maritime regulatory information non-hazardous materials Aviation regulatory information non-hazardous materials</i>	<i>Refer to "15. Regulatory information."</i>
Special precautions for users	<i>No data available</i>	<i>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.</i>
Special Provisions	—	—

SECTION 15 Regulatory information (Japan)

	<u>Ta205</u>	<u>Ta</u>
Occupational Safety and Health Law	<i>There is it in the case of an application or an application</i>	<i>There is it in the case of an application or an application</i>
PRTR Law	<i>Not applicable</i>	<i>Not applicable</i>
Poisonous and Deleterious Substances control Law	<i>Not applicable</i>	<i>Not applicable</i>
Labor Standards Act	<i>Not applicable</i>	<i>Not applicable</i>
Chemical substances control Law	<i>Not applicable</i>	<i>Not applicable</i>
Fire fighting Law	<i>Not applicable</i>	<i>There is it in the case of an application or an application</i>
Air Pollution Control Act	<i>Not applicable</i>	<i>Not applicable</i>
Water Pollution Prevention Act	<i>Not applicable</i>	<i>Not applicable</i>

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Water Supply Act	<i>Not applicable</i>	<i>Not applicable</i>
Sewerage Act	<i>Not applicable</i>	<i>Not applicable</i>
Marine Pollution Prevention Law	<i>Not applicable</i>	<i>Not applicable</i>
Waste Management and Public Cleansing Act	<i>Not applicable</i>	<i>Not applicable</i>
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)