

CANON OPTRON INC.
 SDS Number: EN10
 Product Name: De-gas Nb2O5

SAFETY DATA SHEET

rev. 6.5 Date of Issue 2014/9/1
 Revised Date 2018/6/6

SECTION 1 Chemicals and company identification

Chemical identifier	De-gas Nb2O5
SDS number	EN10
Company name	CANON OPTRON INC.
Address	1744-1, Kanakubo, Yuki-shi, Ibaraki-ken, 307-0015 Japan
Section name	Internal Control Promotion Div.
Telephone number	+81-296-21-3700 (Sales Dept.)
Fax number	+81-296-21-3770
Emergency telephone number	+81-296-21-3700 (Sales Dept.)
Recommended uses and restrictions on 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

Pictogram (Symbol)	No data available
Signal word	No data available
Hazard statement	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.

SECTION 3 Composition and information ingredients

Substance/Mixture	Mixture
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Chemical name or generic name	<i>Niobium oxide</i>	<i>Niobium</i>
Chemical formula	<i>Nb2O5</i>	<i>Nb</i>
CAS No.	<i>1313-96-8</i>	<i>7440-03-1</i>
Concentration or concentration range	Nb2O5 : 80- 90 Nb : 10- 20	
TSCA Inventory	<i>Niobium oxide (Nb2O5)</i>	<i>Niobium</i>
EINECS number	<i>215-13-6</i>	<i>231-113-5</i>
Radioactive information	It does not use a radioactive substance as a material. Thus, evidence of ionizing radiation occurs is not present.	

SECTION 4 First-aid measures

Inhalation	It is possible to move to fresh air victim immediately and keep at rest in a position comfortable for breathing. If you feel bad, you should contact your doctor.
Skin	Take off all contaminated clothing immediately Remove /. I flush for 15 minutes or more with soap and plenty of water. If symptoms blisters and pain comes, get medical attention if necessary.
Eye	Be flush eyes for at least 15 minutes with clean water immediately. If you are using the contact lenses, as long as it is not fixed, it can be washed and removed. Be subject to medical attention without fail.
Ingestion	Rinse mouth immediately. Be subject to medical attention without fail.
Protection of first aiders	Rescuers Wear protective equipment protective eyewear, such as protective gloves.

SECTION 5 Fire-fighting measures

Extinguishing media	The product itself does not burn.
Extinguishing media are unsuitable	No data available
Specific hazards	No data available
Specific extinguishing methods	The movable container, and transferred to a safe place as soon as possible in case of surrounding fire.
Protection of fire-fighters	In fire fighting, I want to wear (gloves, glasses, mask) the appropriate protective equipment.

SECTION 6 Accidental release measures

Personal precautions,protective equipment,and emergencyprocedures	Wear it (which specify what suited the nature of the product) protective equipment, such as spray or on skin, we do not want to dust inhalation, the gas at the time of work.
Environmental precautions	Do not flowing in rivers and sewage directly spillage.

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Methods and materials for containment and methods and materials for cleaning up

And collected in drums or paper bags are collected to wear or have rake those leaked.
 I to absorb in saw-dust or sediment residue content of the small amount of recovery after.

Secondary disaster prevention measures

No data available

SECTION 7 Handling and storage precautions

Handling

Technical measures

I wear the appropriate protective equipment safety glasses, protective gloves, etc.. After handling Wash hands, face, etc., and gargle.

Safety handling precautions

When handling, to handle in place with equipment for general ventilation or local exhaust under.

Storage

Safe storage conditions

Store tightly closed container in a well-ventilated place.
 Should be stored separately (Al, Ca, Mg, K, Na, Zn, and Li) with strong acids, metals.

Safety packaging material

No data available

SECTION 8 Exposure controls and personal protection

Nb2O5

Nb

Permissible concentration

ACGIH

No data available

No data available

Engineering controls

To use devices that are sealed as much as possible, local exhaust ventilation or equipment.

Personal protective equipment

Respiratory protection

Dust mask

Hand protection

Protective glove

Eye protection

Dust-proof glasses

Skin and body protection

Protective clothing

SECTION 9 Physical and chemical properties

Appearance

Physical state

Solid

Form

Granular

Colour

Black

Odour

None

Nb2O5

Nb

pH

No data available

No data available

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Melting point/Freezing point	1520°C	2470°C
Boiling point/Initial boiling point and boiling range	No data available	4742°C
Flash point	None	None
Evaporation rate	No data available	No data available
Flammability (solid, gas)	No data available	No data available
Explosive limits		
LEL	None	None
UEL	None	None
Vapour pressure	No data available	No data available
Vapour density (air = 1)	No data available	No data available
Specific gravity (Relative density) (Density)	4.6	8.56
Solubility		
Water	Insoluble	Insoluble
Other solvents	No data available	No data available
n-octanol/Water partition coefficient	No data available	No data available
Auto-ignition temperature	No data available	No data available
Decomposition temperature	No data available	No data available
Viscosity (Coefficient of viscosity)	No data available	No data available
Other data	None	None

SECTION 10 Stability and reactivity

	<u>Nb2O5</u>	<u>Nb</u>
Reactivity	No data available	No data available
Chemical stability	It is stable in storage conditions and normal handling.	It is stable in storage conditions and normal handling.
Hazardous reactions	It is soluble in water to be eutectic and alkali carbonate or alkali hydroxide, and the resulting precipitate niobate by hydrolysis.	I want to generate hydrogen response to hydrofluoric acid. And chlorine, react at 200 °C or more, resulting in a niobium pentachloride. The nitrogen, the reaction was at 1000 °C or more, resulting in a nitride.
Conditions to avoid	No data available	No data available
Incompatible materials	No data available	No data available
Hazardous decomposition products	No data available	No data available

SECTION 11 Hazard information

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	<u>Nb2O5</u>	<u>Nb</u>
Acute toxicity(oral)	<i>Oral – Rat LD:> 10g/kg Intraperitoneal – rat LD:> 10g/kg, Oral – Mouse LD50:> 4g/kg Intraperitoneal – mouse LD:> 10g/kg</i>	<i>Oral – Rat LD:> 10g/kg Intraperitoneal – rat LD:> 10g/kg Oral – mouse LD:> 10g/kg Intraperitoneal – mouse LD:> 10g/kg</i>
Acute toxicity(dermal)	<i>No data available</i>	<i>No data available</i>
Acute toxicity(inhalation)	<i>If inhaled, to stimulate the respiratory system and mucous membranes.</i>	<i>If inhaled, nasal, throat is stimulated.</i>
Skin corrosion/irritation	<i>No data available</i>	<i>No data available</i>
Eye damage/eye irritation	<i>No data available</i>	<i>To give a foreign body sensation Once in the eye, it is irritating to the eyes.</i>
Respiratory sensitization/Skin sensitization	<i>No data available</i>	<i>No data available</i>
Germ cell mutagenicity	<i>No data available</i>	<i>No data available</i>
Carcinogenicity	<i>No data available</i>	<i>No data available</i>
Reproductive toxicity	<i>No data available</i>	<i>No data available</i>
Specific target organ toxicity(single exposure)	<i>No data available</i>	<i>No data available</i>
Specific target organ toxicity(repeated exposure)	<i>No data available</i>	<i>No data available</i>
Aspiration hazard	<i>No data available</i>	<i>No data available</i>
Others	<i>None</i>	

SECTION 12 Ecological information

	<u>Nb2O5</u>	<u>Nb</u>
Ecotoxicity		
Fish	<i>No data available</i>	<i>No data available</i>
Crustaceantoxicity(single exposure)	<i>No data available</i>	<i>No data available</i>
Algae	<i>No data available</i>	<i>No data available</i>
Other organisms	<i>No data available</i>	<i>No data available</i>
Persistence and degradability	<i>No data available</i>	<i>No data available</i>
Bioaccumulative potential	<i>No data available</i>	<i>No data available</i>
Mobility in soil	<i>No data available</i>	<i>No data available</i>
Hazard to the ozone layer	<i>No data available</i>	<i>No data available</i>
Others	<i>No data available</i>	<i>No data available</i>

SECTION 13 Notes on disposal

Waste from residues

Entrust the process to industrial waste disposal contractor has received a license from the governor.

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contaminated packagingRecycle or in the clean container and take appropriate disposal in accordance
with the criteria of the relevant legislation sequence municipality.

SECTION 14 Transport information

	<u>Nb2O5</u>	<u>Nb</u>
International regulation		
UN classification	<i>No data available</i>	<i>No data available</i>
UN number	<i>None</i>	<i>None</i>
UN proper shipping name	<i>None</i>	<i>None</i>
Packing group	<i>No data available</i>	<i>No data available</i>
Japanese laws and regulations	<i>None</i>	<i>None</i>
Conditions and specific safety measures of transport	<i>No data available</i>	<i>No data available</i>

SECTION 15 Regulatory information (Japan)

	<u>Nb2O5</u>	<u>Nb</u>
PRTR Law	<i>No data available</i>	<i>No data available</i>
Occupational Safety and Health Law	<i>No data available</i>	<i>No data available</i>
Poisonous and Deleterious Substances control Law	<i>No data available</i>	<i>No data available</i>
Explosives control Law	<i>No data available</i>	<i>No data available</i>
High-pressure gas security Law	<i>No data available</i>	<i>No data available</i>
Fire fighting Law	<i>No data available</i>	<i>No data available</i>
Chemical substances control Law	<i>No data available</i>	<i>No data available</i>
Ship safety Law	<i>No data available</i>	<i>No data available</i>
Aviation Law	<i>No data available</i>	<i>No data available</i>
Prevention of marine pollution Law	<i>No data available</i>	<i>No data available</i>
Pneumoconiosis Law	<i>No data available</i>	<i>No data available</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.

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Literature Reference

[References]

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Poisonous and Deleterious Substances Control Act All Data of MSDS Target Substances: The Chemical Daily Co., Ltd (2003)

Pollutant Release and Transfer Register All Data of MSDS Target Substances: The Chemical Daily Co., Ltd (2003)

Recommendations for Allowable Concentrations (Fiscal 2017): Japan Society for Occupational Health Journal of Occupational Health, Vol. 59 2017

[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)