

CANON OPTRON INC.
 SDS Number: EW04
 Product Name: WO3(D)

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	WO3(D)
SDS number	EW04
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")

Physicochemical hazard	Explosives	Classification not possible	
	Flammable gases (including chemically unstable gases)	Not applicable	
	Aerosols	Not applicable	
	Oxidizing gases	Not applicable	
	Gases under pressure	Not applicable	
	Flammable liquids	Not applicable	
	Flammable solids	Classification not possible	
	Self-reactive substances and mixtures	Classification not possible	
	Pyrophoric liquids	Not applicable	
	Pyrophoric solids	Classification not possible	
	Self-heating substances and mixtures	Classification not possible	
	Substances and mixtures which, in contact with water, emit flammable gases	Classification not possible	
	Oxidizing liquids	Not applicable	
	Oxidizing solids	Classification not possible	
	Organic peroxides	Classification not possible	
	Corrosive to metals	Classification not possible	
	Health hazard	Acute toxicity (oral)	Category 4
		Acute toxicity (dermal)	Classification not possible
		Acute toxicity (inhalation)	Classification not possible
Skin corrosion/irritation		Classification not possible	

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	Eye damage/eye irritation	Classification not possible
	Respiratory sensitization	Classification not possible
	Skin sensitization	Classification not possible
	Germ cell mutagenicity	Classification not possible
	Carcinogenicity	Classification not possible
	Reproductive toxicity	Classification not possible
	Effects on or via lactation	Classification not possible
	Specific target organ toxicity(single exposure)	Classification not possible
	Specific target organ toxicity(repeated exposure)	Category 2
	Aspiration hazard	Classification not possible
Environmental hazard	Hazard to the aquatic environment(acute hazard)	Classification not possible
	Hazard to the aquatic environment(long-term hazard)	Classification not possible
	Hazard to the ozone layer	Classification not possible
Label element		
Pictogram (Symbol)	Exclamation	Health Hazard
		
Signal word	Warning	
Hazard statement	Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure.	
Precautionary statement		
【Safety measures】	Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.	
【First-aid measures】	IF SWALLOWED: Immediately call poison center or doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. Rinse mouth.	
【Storage】	—	
【Disposal】	Dispose of contents/container in accordance with national regulations.	

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SECTION 3 Composition and information ingredients

Substance/Mixture	Mixture	
Chemical name or generic name	<i>Tungsten oxide</i>	<i>Aluminium oxide</i>
Chemical formula	<i>WO3</i>	<i>Al2O3</i>
CAS No.	<i>1314-35-8</i>	<i>1344-28-1</i>
Concentration or concentration range	WO3 : 97.0- 99.9 Al2O3 : 0.1- 3.0	
TSCA Inventory	<i>Tungsten oxide (WO3)</i>	<i>Aluminum oxide (Al2O3)</i>
EINECS number	<i>215-231-4</i>	<i>215-691-6</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.

Safety packaging material

No data available

SECTION 8 Exposure controls and personal protection

WO3

Al2O3

Permissible concentration

ACGIH

*TWA 5mg/m³ (as W)
 STEL 10mg/m³ (as W)
 (2010)*

(Particulate asbestos-free, less than 1% crystalline silica) TLV-TWA 10mg/m³ (2005 edition)

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

Pellet

Colour

Yellow

Odour

None

WO3

Al2O3

pH

6.1 : GESTIS (Access on Apr. 2010)

No data available

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Melting point/Freezing point	1472°C	2072°C
Boiling point/Initial boiling point and boiling range	1837°C	2980°C
Flash point	Noncombustibility	Noncombustibility
Evaporation rate	No data available	Not applicable
Flammability (solid, gas)	No data available	Noncombustibility
Explosive limits		
LEL	No data available	No data available
UEL	No data available	No data available
Vapour pressure	No data available	0.073Pa (mp.)
Vapour density (air = 1)	No data available	No data available
Specific gravity (Relative density)	7.2	3.97
(Density)	※ as WO3 (D), 5.8 ~ 6.4 (pellet)	
Solubility		
Water	Insoluble	Insoluble
Other solvents	No data available	The slightly soluble in non-polar organic solvent
n-octanol/Water partition coefficient	No data available	No data available
Auto-ignition temperature	Noncombustibility	Noncombustibility
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>WO3</u>	<u>Al2O3</u>
Reactivity	No data available	No data available
Chemical stability	It is considered to be stable in storage and handling in accordance with the laws and regulations	Stability
Hazardous reactions	No data available	Almost no
Conditions to avoid	No data available	Generation of dust, diffusion.
Incompatible materials	No data available	None
Hazardous decomposition products	No data available	None

SECTION 11 Hazard information

WO3Al2O3

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Acute toxicity(oral)	Rat LD50 value: 840 mg / kg bw (ATSDR (2005))	Oral Rat LD50> 5000mg/kg
Acute toxicity(dermal)	No data available	No data available
Acute toxicity(inhalation)	No data available	Mouse LD50:> 3,600 mg / kg (ip)
Skin corrosion/irritation	No data available	No data available
Eye damage/eye irritation	No data available	No data available
Respiratory sensitization/Skin sensitization	No data available	No data available
Germ cell mutagenicity	In the Ames test negative (NTB DB (Access on May 2010))	Was mutagenicity test has not been carried out, even in the mutagenicity test Ames test is only the (negative), and can not be classified by the lack of data. Was mutagenicity test has not been carried out, even in the mutagenicity test Ames test is only the (negative), and can not be classified by the lack of data.
Carcinogenicity	No data available	ACGIH are classified into (a substance that can not be classified as a human carcinogen) group A4.
Reproductive toxicity	No data available	No data available
Specific target organ toxicity(single exposure)	In the case of airway administration, was seen mild fibrosis, second only to the growth of white blood cells and histiocytes in the injection site, especially of the lung through the rat (DFGMAK-Doc. 23 (2007).	May cause respiratory irritation
Specific target organ toxicity(repeated exposure)	(90 days in terms dose: about 194 mg / kg) 0.5% by 70 days dietary administration to rats death was observed above, the only description of the weight loss finding low dose (0.1%) of (DFGMAK-Doc. 23 (2007)). In humans in the study of workers with long-term career, reported that there was no incidence of pneumoconiosis in humans who received the exposure of the insoluble material or tungsten exclusively (ACGIH (2001)). On the other hand, reported signs of lung fibrosis and was seen in workers who received the dust exposure, including this substance (ATSDR (2005))	TLV-TWA 10mg/m3(An asbestos non-implication, the fine particles of under crystal silica 1%) (A 2005 version)
Aspiration hazard	No data available	TLV-TWA 10mg/m3(An asbestos non-implication, the fine particles of under crystal silica 1%) (A 2005 version)
Others	None	

SECTION 12 Ecological information

WO3AI2O3

Ecotoxicity

Fish

No data available

No data available

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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.
Contaminated container and contaminated packaging	Recycle 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>WO3</u>	<u>AI2O3</u>
International regulation		
UN classification	<i>Not applicable</i>	<i>Not applicable</i>
UN number	<i>None</i>	<i>None</i>
UN proper shipping name	<i>None</i>	<i>None</i>
Packing group	<i>Not applicable</i>	<i>Not applicable</i>
Japanese laws and regulations	<i>Land can not be specific regulatory information Unable maritime regulatory information specific Unable aviation regulations specific information</i>	<i>No land Regulatory Information Regulatory Maritime regulatory information non-hazardous materials Aviation regulatory information non-hazardous materials</i>
Conditions and specific safety measures of transport	<i>Requires retention of yellow card when transporting. Do not transport with food and feedstuffs. During transport, I avoid direct rays of the sun, the loading of container damage, corrosion, so that there is no leakage, it is surely the prevention of collapse of cargo. Do not top up heavy objects.</i>	<i>During transport, the loading container is broken or corroded, so that there is no leak, and to reliably prevent the collapse of cargo.</i>

SECTION 15 Regulatory information (Japan)

	<u>WO3</u>	<u>AI2O3</u>
PRTR Law	<i>None</i>	<i>None</i>
Occupational Safety and Health Law	<i>None</i>	<i>There is it in the case of an application or an application</i>

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Poisonous and Deleterious Substances control Law	None	None
Explosives control Law	None	None
High-pressure gas security Law	None	None
Fire fighting Law	None	None
Chemical substances control Law	None	None
Ship safety Law	None	None
Aviation Law	None	None
Prevention of marine pollution Law	None	None
Pneumoconiosis Law	None	There is it in the case of an application or an application
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.

Literature Reference

[References]

Industrial Safety and Health Act All Data of MSDS Target Substances: The Chemical Daily Co., Ltd (2003)
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]

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