

CANON OPTRON INC.
 SDS Number: E034
 Product Name: OR-510

SAFETY DATA SHEET

rev. 8.2 Date of Issue 2017/11/16
 Revised Date 2026/4/17

SECTION 1 Chemicals and company identification

Product name	OR-510
Product code	E034
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")

Physical hazards	Explosives	Classification not possible
	Flammable gases	Not applicable
	Aerosols	Not applicable
	Oxidizing gases	Not applicable
	Gas 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 hazards	Desensitize explosives	Classification not possible
	Acute toxicity(oral)	Classification not possible
	Acute toxicity(dermal)	Classification not possible
	Acute toxicity (Inhalation: Gases)	Not applicable
	Acute toxicity (Inhalation: Vapors)	Classification not possible

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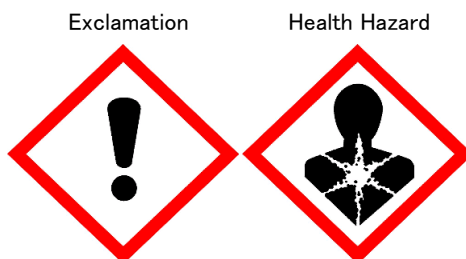
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	Acute toxicity (Inhalation: Dusts and mists)	Classification not possible
	Skin corrosion/irritation	Classification not possible
	Serious eye damage/eye irritation	Classification not possible
	Respiratory sensitization	Classification not possible
	Skin sensitization	Classification not possible
	Germ cell mutagenicity	Classification not possible
	Carcinogenicity	Classification not possible
	Reproductive toxicity	Classification not possible
	Reproductive toxicity, effects on or via lactation	Classification not possible
	Specific target organ toxicity(single exposure)	Category 3
	Specific target organ toxicity(repeated exposure)	Category 1
	Aspiration hazard	Classification not possible
Environmental hazards	Hazardous to the aquatic environment Short-term(acute)	Classification not possible
	Hazardous to the aquatic environment Long-term(chronic)	Classification not possible
	Hazardous to the ozone layer	Classification not possible

Label elements

hazard Pictograms



Signal word

Danger

Dangerous goods hazard information

May cause respiratory irritation.
 Causes damage to organs through prolonged or repeated exposure Lungs.

Precautionary statements

【Safety measures】

Do not breathe dust/fume/gas/mist/vapours/spray.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash hands thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.

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【First-aid measures】	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Call poison center or doctor/physician. Call a poison center / doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. Specific treatment.
【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】	-

SECTION 3 Composition/information on ingredients

Substance/Mixture	Mixture	
Chemical name	Aluminum oxide	Organic silicide
Chemical formula	Al ₂ O ₃	Organic silicide
Concentration or concentration range	Al ₂ O ₃ : 90-95% Organic silicide : 5-10% Total = 100%	
CAS No.	1344-28-1	Confidential-13
TSCA Inventory	Aluminum oxide (Al ₂ O ₃)	No data available
EINECS number	215-691-6	No data available
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

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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.

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

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SECTION 8 Exposure controls/personal protection

Al2O3**Organic silicide**

Permissible concentration

ACGIH

TWA 1 mg/m³(R),STEL -TWA 200 ppm (methanol: decomposition product)
STEL 250 ppm (methanol: decomposition product)

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

Skin protection

Protective clothing

SECTION 9 Physical and chemical properties

Appearance

Physical state

Solid

Form

Pellet

Colour

White

Odour

None

Al2O3**Organic silicide**

Melting point/freezing point

2072°C

No data available

Boiling point or initial boiling point
and boiling range

2980°C

No data available

Flammability

No data available

No data available

Upper/lower flammability or
explosive limits

No data available

No data available

Flash point

Noncombustibility

>100° C (>212° F) (Closed Cup)
>260° C (>500° F) (Open Cup)

Auto-ignition temperature

Noncombustibility

No data available

Decomposition temperature

No data available

No data available

pH

No data available

No data available

Kinematic viscosity

No data available

30 mm²/s (25 °C)

Solubility

Water

Insoluble

Insoluble

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Other solvents	The slightly soluble in non-polar organic solvent	No data available
Partition coefficient: n-octanol/water	No data available	No data available
Vapour pressure	0.073Pa (mp.)	Negligible (25° C)
Density and/or relative density (Density)	3.97	0.98 (25°C)
Relative vapor density	No data available	Not available
Particle characteristics	No data available	No data available
Other information	No data available	No data available

SECTION 10 Stability and reactivity

Al2O3**Organic silicide**

Reactivity	No data available	Slowly reacts with water,acids or bases
Chemical stability	Stability	Stable at normal conditions
Possibility of hazardous reactions	Possibility of hazardous reaction is negligible.	Hazardous polymerization does not occur
Conditions to avoid	Generation of dust, diffusion.	None specific.
Incompatible materials	Not applicable	Strong oxidizing agents
Hazardous decomposition products	Not applicable	The product slowly reacts with water,acids or bases to evolve following compounds:methanol Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product. Carbon oxides and traces of incompletely burned carbon compounds.Silicon dioxide.Formaldehyde.

SECTION 11 Toxicological information

Al2O3**Organic silicide**

Acute toxicity(oral)	SPECIES: Rat ENDPOINT: LD50 VALUE: > 5000 mg/kg	LD50: 14.4 g/kg (rabbit) (methanol: decomposition product) LD50: 7300 mg/kg (mouse) (methanol: decomposition product) LD50: 5628 mg/kg (rat) (methanol: decomposition product)
Acute toxicity(dermal)	No data available	LD50: 15800 mg/kg (rabbit) (methanol: decomposition product)
Acute toxicity (Inhalation: Gases)	Solid (GHS definition)	LC50: 87.5 mg/l, 6 Hours (rat) 64000ppm, 4Hours (rat) (methanol: decomposition product)

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Acute toxicity (Inhalation: Vapours)	No data available	No data available
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	Causes serious eye irritation.(methanol: decomposition product)
Respiratory or skin sensitization	No data available	No data available
Germ cell mutagenicity	The in vivo mutagenicity test has not been carried out, and in the in vitro mutagenicity test, we could only find the Ames test (negative). Therefore we presupposed that we could not classify it for the lack of data.	No data available
Carcinogenicity	Not classified because of A4 by ACGIH.	No data available
Reproductive toxicity	No data available	May damage fertility or the unborn child (methanol: decomposition product)
Specific target organ toxicity(single exposure)	It was set as category 3 (respiratory irritation) from the statement of upper respiratory irritation (ICSC (2000)).	May cause damage to the folloeing organs Central nervous system: systemic toxicity, visual organs, narcotic effect (methanol: decomposition product)
Specific target organ toxicity(repeated exposure)	It was classified into Category 1 according the statement that by occupational exposure of aluminas, pulmonary fibrosis was occurred (EHC (1997)).	May cause damage to the folloeing organs through prolonged or repeated exposure. Central nervous system visual organs (methanol: decomposition product)
Aspiration hazard	No data available	No data available
Other information	No data available	

SECTION 12 Ecological information

Al2O3

Organic silicide

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

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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.
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>A1203</u>	<u>Organic silicide</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	No data available
Special precautions for users	When transporting, protect from direct sunlight and take on cargo without breakage of container, corrosion and leakage.	No data available
Special Provisions	-	-

SECTION 15 Regulatory information (Japan)

	<u>A1203</u>	<u>Organic silicide</u>
Occupational Safety and Health Law	Not applicable	Not applicable
PRTR Law	Not applicable	Not applicable
Poisonous and Deleterious Substances control Law	Not applicable	Not applicable
Labor Standards Act	Not applicable	No data available
Chemical substances control Law	Not applicable	Not applicable

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Fire fighting Law	Not applicable	There is it in the case of an application or an application
Air Pollution Control Act	Not applicable	No data available
Water Pollution Prevention Act	There is it in the case of an application or an application	No data available
Water Supply Act	There is it in the case of an application or an application	No data available
Sewerage Act	Not applicable	No data available
Marine Pollution Prevention Law	Not applicable	Not applicable
Waste Management and Public Cleansing Act	Not applicable	No data available
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)