

CANON OPTRON INC.

SDS Number: EY01
Product Name: Y2O3

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	Y2O3
Product code	EY01
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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	Acute toxicity (Inhalation: Dusts and mists)	Classification not possible
	Skin corrosion/irritation	Classification not possible
	Serious eye damage/eye irritation	Category 2B
	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)	Classification not possible
	Specific target organ toxicity(repeated exposure)	Classification not possible
	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		No symbol
		No symbol
Signal word		
Warning		
Dangerous goods hazard information		Causes eye irritation.
Precautionary statements		
【Safety measures】		Wash hands thoroughly after handling.
【First-aid measures】		IF IN EYES: 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.

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【Storage】 —
 【Disposal】 —
 【Other hazards】 —

SECTION 3 Composition/information on ingredients

Substance/Mixture	Substance
Chemical name	<i>Yttrium oxide</i>
Chemical formula	<i>Y2O3</i>
Concentration or concentration range	99.9<
CAS No.	1314-36-9
TSCA Inventory	<i>Yttrium oxide (Y2O3)</i>
EINECS number	<i>215-233-5</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	Water spray, foam, carbon dioxide, powder fire extinguisher.
Unsuitable extinguishing media	Because a fire might spread through the outskirts, It avoid direct stick irrigation.
Specific hazards	As a general precaution, in the case of powdered materials, dust explosions can be caused under certain conditions.

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Specific extinguishing methods	<p>Cut off the source of combustion to the origin of the fire, and use a fire extinguishing agent to extinguish the fire.</p> <p>Cool surrounding tanks, buildings, etc. by spraying water to prevent the spread of fire.</p> <p>It performs the fire fighting from windward.</p> <p>Restrict access to the area around the fire location to persons other than those involved with the fire.</p> <p>If it is not dangerous to do so, move the container out of the fire area.</p>
Special protective equipment for firefighters	<p>Wear appropriate self-contained equipment for respiratory organ protection and protective clothing (heat-resistant) for eye and skin protection during firefighting operations.</p>

SECTION 6 Accidental release measures

Personal precautions, protective equipment, and emergency procedures	<p>It prohibits the entrance except the person concerned.</p> <p>The worker wears appropriate personal protective equipment (in item of "8. revelation prevention and protection measures" reference) and avoids eyes, contact and inhalation to skin.</p>
Environmental precautions	<p>It avoids an outflow to the environmental average of the product to have possibilities to influence neighboring environment.</p>
Methods and material for containment and cleaning up	<p>Sweep up scattered material or use suction by a vacuum cleaner or the like to prevent scattering and dust emission as much as possible, and collect the material in an empty container.</p> <p>No eating and drinking in the vicinity of handling and storage areas.</p> <p>Promptly remove all sources of ignition (no smoking, sparks, or flames in the vicinity).</p> <p>Prevent inflow into drains, sewers, basements, or closed areas.</p>
Secondary disaster prevention measures	<p>No data available</p>

SECTION 7 Handling and storage

Precautions for safe handling

Technical measures	<p>Take measures for equipment as described in "8. Exposure controls/personal protection" and wear protective equipment.</p>
Safety handling precautions	<p>It prevents you from producing dust.</p>
Avoidance of contact	<p>Refer to "10. Stability and reactivity."</p>
Hygiene measures	<p>Wash hands thoroughly after handling.</p> <p>Do not eat, drink or smoke when using this product.</p>
Conditions for safe storage, including any incompatibilities	
Safe storage conditions	<p>The storage area shall be equipped with the necessary lighting and ventilation equipment to store or handle dangerous or hazardous substances.</p> <p>To take preventive measures against electrostatic discharge.</p>
Safety packaging material	<p>It uses the container which it can seal up without damage and the leak.</p>

SECTION 8 Exposure controls/personal protection

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Permissible concentration

ACGIH

TLV-TWA: 1 mg/m³
(as yttrium and compound, yttrium)
(2015 version)

Appropriate engineering controls

In the work shop which dust produces, It use a device, an apparatus sealed up by all means or a local ventilator.

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	Pellets, granules
Colour	White
Odour	None

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Melting point/freezing point

2,420 degrees Celsius (inorganic compound, chelate dictionary (1997))

Boiling point or initial boiling point
 and boiling range

Approximately 4,300 degrees Celsius (inorganic compound, chelate dictionary (1997))

Flammability

No data available

Upper/lower flammability or
 explosive limits

No data available

Flash point

Nonflammability (GESTIS (2015))

Auto-ignition temperature

Nonflammability (GESTIS (2015))

Decomposition temperature

No data available

pH

No data available

Kinematic viscosity

No data available

Solubility

Water

Insoluble (GESTIS (2015))

Other solvents

No data available

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Partition coefficient: n-octanol/water	No data available
Vapour pressure	No data available
Density and/or relative density (Density)	No data available ※ 2.2 ~ 2.8 (pellet) as Y2O3
Relative vapor density	No data available
Particle characteristics	No data available
Other information	No data available

SECTION 10 Stability and reactivity

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Reactivity	No data available
Chemical stability	No data available
Possibility of hazardous reactions	No data available
Conditions to avoid	No data available
Incompatible materials	No data available
Hazardous decomposition products	No data available

SECTION 11 Toxicological information

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Acute toxicity(oral)	For a rat LD50 price, > 5,000 mg/kg (GESTIS (Access on September 2015)) There is information.
Acute toxicity(dermal)	No data available
Acute toxicity (Inhalation: Gases)	Solid (GHS definition)
Acute toxicity (Inhalation: Vapours)	Solid (GHS definition)
Acute toxicity (Inhalation: Dusts and mists)	No data available
Skin corrosion/irritation	It is written that this substance showed no irritation to rabbit skin (HSDB (Access on September 2015)). However, due to its unknown details, it was considered as insufficient data to be used for the judging as "Not classified."
Serious eye damage/irritation	From the information that this substance showed slight irritation to rabbit eyes (HSDB (Access on September 2015)), it was classified in Category 2B.
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	No data available

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Carcinogenicity

The classification is not possible due to lack of data.
Besides, it is reported that in a test in which mice were administered yttrium nitrate in the diet (feeding with a food containing 5 ppm as Y) for life, a dosed group showed an increased tendency in incidence of malignant tumors (leukemia, lymphoma, lung adenocarcinoma) of 33.3% in comparison with 14.6% in a control group (not statistically significant) (HSDB (Access on September 2015), DFGOT (1998; German language), Netherlands evaluation document (2000)).

Reproductive toxicity

No data available

Specific target organ toxicity(single exposure)

No data available

Specific target organ toxicity(repeated exposure)

No data available

Aspiration hazard

No data available

Other information

No data available

SECTION 12 Ecological information

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Toxicity

Hazardous to the aquatic environment Short-term(acute)

No data available

Hazardous to the aquatic environment Long-term(chronic)

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Hazard to the ozone layer

No data available

Other adverse effects

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

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International regulation

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UN number	<i>Not applicable</i>
UN proper shipping name	<i>Not applicable</i>
UN classification	<i>Not applicable</i>
Transport hazard class	<i>Not applicable</i>
Packing group	<i>Not applicable</i>
Hazardous to the aquatic environment	<i>No data available</i>
Maritime transport in bulk according to IMO instruments	<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>
Special precautions for users	<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)

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Occupational Safety and Health Law	<i>There is it in the case of an application or an application</i>
PRTR Law	<i>Not applicable</i>
Poisonous and Deleterious Substances control Law	<i>Not applicable</i>
Labor Standards Act	<i>Not applicable</i>
Chemical substances control Law	<i>Not applicable</i>
Fire fighting Law	<i>Not applicable</i>
Air Pollution Control Act	<i>Not applicable</i>
Water Pollution Prevention Act	<i>Not applicable</i>
Water Supply Act	<i>Not applicable</i>
Sewerage Act	<i>Not applicable</i>
Marine Pollution Prevention Law	<i>Not applicable</i>
Waste Management and Public Cleansing Act	<i>Not applicable</i>
Note	Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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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)