

CANON OPTRON INC.

SDS Number: EA01
 Product Name: AI2O3

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	AI2O3
SDS number	EA01
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)	Not classified
		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	Not classified
	Reproductive toxicity	Classification not possible
	Effects on or via lactation	Classification not possible
	Specific target organ toxicity(single exposure)	Category 3(Respiratory tract irritation)
	Specific target organ toxicity(repeated exposure)	Category 1
	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

Danger

Hazard statement

May cause drowsiness or dizziness.
 Causes damage to organs through prolonged or repeated exposure.

Precautionary statement

【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.

【First-aid measures】

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 Call a poison center or doctor/physician if you feel unwell.
 Get medical advice/attention if you feel unwell.

【Storage】

Store in a well-ventilated place. Keep container tightly closed.
 Store locked up.

【Disposal】

Dispose of contents/container in accordance with national regulations.

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SECTION 3 Composition and information ingredients

Substance/Mixture	Substance
Chemical name or generic name	Aluminium oxide
Chemical formula	Al ₂ O ₃
CAS No.	1344-28-1
Concentration or concentration range	99.9%<
TSCA Inventory	Aluminum oxide (Al ₂ O ₃)
EINECS number	215-691-6
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 victims and keep at rest in a position comfortable for breathing. If you feel bad, you should contact your doctor.
Skin	Take off contaminated clothing. Be washed immediately and the skin. Be laundered before reuse contaminated clothing.
Eye	Rinse cautiously with water for several minutes. Then, be removed, if present and easy to do wear contact lenses. To continue the cleaning afterwards. Able to receive medical attention, attention.
Ingestion	That you rinse your mouth immediately, call a physician immediately.
Protection of first aiders	Rescuers, wear suitable protective equipment as the situation demands.

SECTION 5 Fire-fighting measures

Extinguishing media	This material is non-flammable. I Use an extinguishing agent adapted to the surrounding fire.
Extinguishing media are unsuitable	No data available
Specific hazards	None
Specific extinguishing methods	The Move containers from fire area if this can be done without risk.
Protection of fire-fighters	On the occasion of fire fighting, including the appropriate air respirator, wear appropriate chemical protective clothing. Immovable case, it is cooled with water spray in and around the container.

SECTION 6 Accidental release measures

Personal precautions,protective equipment,and emergencyprocedures	Immediately, I isolate leakage area as the appropriate distance in all directions. To prohibit the entrance of non-emergency personnel. Wear, the worker to avoid contact and inhalation gas, fume of the eye, to the skin (see section "protection measures and 8. Exposure prevention") appropriate protective equipment.
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Environmental precautions	None
Methods and materials for containment and methods and materials for cleaning up	Stop leak if it can be done without risk.
Secondary disaster prevention measures	Generation of dust, I avoid spreading.

SECTION 7 Handling and storage precautions

Handling

Technical measures	And made capital measures described in "SECTION 8 Exposure controls and personal protection", to wear protective equipment.
Safety handling precautions	Be used only in well-ventilated area or outdoors. Do not swallow contact, or inhalation. Do not breathe dust, fumes. Wash hands thoroughly after handling.

Storage

Safe storage conditions	Be stored in a cool place with good ventilation and container tightly closed. To keep it under lock and key.
Safety packaging material	No packaging, regulation of the container, but put to those that do not damage sealable.

SECTION 8 Exposure controls and personal protection

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Permissible concentration

ACGIH

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

Engineering controls

Making a ventilation exhaust in order to keep the exposure limits or less concentration in the air.
And placing a safety shower and eye wash in the workplace handling or storage of this material.

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	Pellets, granules, powder
Colour	White or transparency
Odour	None

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pH	No data available
Melting point/Freezing point	2072°C
Boiling point/Initial boiling point and boiling range	2980°C
Flash point	Noncombustibility
Evaporation rate	Not applicable
Flammability (solid, gas)	Noncombustibility
Explosive limits	
LEL	No data available
UEL	No data available
Vapour pressure	0.073Pa (mp.)
Vapour density (air = 1)	No data available
Specific gravity (Relative density)	3.97
(Density)	※ 2.63 ~ 3.05 (pellet) as Al ₂ O ₃
Solubility	
Water	Insoluble
Other solvents	The slightly soluble in non-polar organic solvent
n-octanol/Water partition coefficient	No data available
Auto-ignition temperature	Noncombustibility
Decomposition temperature	No data available
Viscosity (Coefficient of viscosity)	No data available
Other data	None

SECTION 10 Stability and reactivity

Al₂O₃

Reactivity	No data available
Chemical stability	Stability
Hazardous reactions	Almost no
Conditions to avoid	Generation of dust, diffusion.
Incompatible materials	None
Hazardous decomposition products	None

SECTION 11 Hazard information

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Acute toxicity(oral)	<i>Oral Rat LD50> 5000mg/kg</i>
Acute toxicity(dermal)	<i>No data available</i>
Acute toxicity(inhalation)	<i>Mouse LD50:> 3,600 mg / kg (ip)</i>
Skin corrosion/irritation	<i>No data available</i>
Eye damage/eye irritation	<i>No data available</i>
Respiratory sensitization/Skin sensitization	<i>No data available</i>
Germ cell mutagenicity	<i>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.</i>
Carcinogenicity	<i>ACGIH are classified into (a substance that can not be classified as a human carcinogen) group A4.</i>
Reproductive toxicity	<i>No data available</i>
Specific target organ toxicity(single exposure)	<i>May cause respiratory irritation</i>
Specific target organ toxicity(repeated exposure)	<i>TLV-TWA 10mg/m3(An asbestos non-implication, the fine particles of under crystal silica 1%) (A 2005 version)</i>
Aspiration hazard	<i>TLV-TWA 10mg/m3(An asbestos non-implication, the fine particles of under crystal silica 1%) (A 2005 version)</i>
Others	None

SECTION 12 Ecological information

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

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International regulation

UN classification

Not applicable

UN number

None

UN proper shipping name

None

Packing group

Not applicable

Japanese laws and regulations

*No land Regulatory Information Regulatory
 Maritime regulatory information non-hazardous materials
 Aviation regulatory information non-hazardous materials*

Conditions and specific safety
 measures of transport

*During transport, the loading container is broken or corroded, so that there is no
 leak, and to reliably prevent the collapse of cargo.*

SECTION 15 Regulatory information (Japan)

AI2O3

PRTR Law

None

Occupational Safety and Health
 Law

There is it in the case of an application or an application

Poisonous and Deleterious
 Substances control Law

None

Explosives control Law

None

High-pressure gas security Law

None

Fire fighting Law

None

Chemical substances control Law

None

Ship safety Law

None

Aviation Law

None

Prevention of marine pollution Law

None

Pneumoconiosis Law

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.

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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]

ezCRIC (Japan Chemical Database Ltd)