

CANON OPTRON INC.  
 SDS Number: EA03  
 Product Name: AI

# 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	AI
SDS number	EA03
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)
Acute toxicity (dermal)		Classification not possible
Acute toxicity (inhalation)		Classification not possible
Skin corrosion/irritation		Classification not possible

CANON OPTRON INC.  
 SDS Number: EA03  
 Product Name: AI

# SAFETY DATA SHEET

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

	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 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)	Not classified
	Hazard to the ozone layer	Classification not possible
Label element		
Pictogram (Symbol)	Health Hazard	
		
Signal word	Danger	
Hazard statement	Causes 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】	Get medical advice/attention if you feel unwell.	
【Storage】	—	
【Disposal】	Dispose of contents/container in accordance with national regulations.	

## SECTION 3 Composition and information ingredients

Substance/Mixture	Substance
	_____

CANON OPTRON INC.

SDS Number: EA03  
Product Name: AI

## SAFETY DATA SHEET

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

Chemical name or generic name	Aluminium
Chemical formula	Al
CAS No.	7429-90-5
Concentration or concentration range	99.9%<
TSCA Inventory	Aluminum
EINECS number	231-072-3
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, get medical attention, diagnosis.
Skin	Be washed immediately and the skin. If you feel bad, get medical attention, diagnosis.
Eye	For several minutes in the water, wash carefully. If eye irritation persists, get medical attention, attention. If you feel bad, get medical attention, diagnosis.
Ingestion	Rinse the mouth. If you feel bad, get medical attention, diagnosis.
Protection of first aiders	No data available

## SECTION 5 Fire-fighting measures

Extinguishing media	Small fire: dry chemical, soda ash, lime, sand Large fire: dry sand, dry chemical, soda ash, lime
Extinguishing media are unsuitable	Water, foam
Specific hazards	There is a risk of fire heat, flame and sparks. Is likely to re-ignite after the fire. Is likely to generate a gas corrosive irritation, toxicity, or by fire.
Specific extinguishing methods	The Move containers from fire area if this can be done without risk. Immovable case, it is cooled with water spray in and around the container. The fire fighting operations performed by a sufficient distance can be effectively performed. Do not pour water into the container. Even after the fire, cooling the container thoroughly with a large amount of water.
Protection of fire-fighters	When fire fighting, wear full protective clothing and (heat resistance) include the appropriate air respirator.

## SECTION 6 Accidental release measures

CANON OPTRON INC.

SDS Number: EA03  
Product Name: AI

## SAFETY DATA SHEET

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

Personal precautions, protective equipment, and emergency procedures	Do not touch the spilled material, you do not walk therein. Immediately, I isolate leakage area as the appropriate distance in all directions. To prohibit the entrance of non-emergency personnel. Wear, the operator avoid inhalation of gas and contact with eyes, to the skin (see section "protection measures and 8. Exposure prevention") appropriate protective equipment. I stay upwind. I away from the lowland. Ventilate Before delving into an enclosed area.
Environmental precautions	It should not be released to the environment. The Note is discharged into rivers or the like, so as not to cause damage to the environment.
Methods and materials for containment and methods and materials for cleaning up	Stop leak if it can be done without risk. Performing a water spray in order to suppress the evaporation and prevent the diffusion of vapor. Do not apply directly to the leakage of the watering. Soil dry to prevent the scattering in the plastic sheet and further covered with noncombustible material or sand, Do not let them get wet in the rain. Powder spilled prevent the scattering of covered with a plastic sheet and dried.
Secondary disaster prevention measures	(Smoking in the vicinity, the prohibition of flame or spark) to remove promptly all sources of ignition. Do not pour water into the container or spilled material.

## 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	Because of the risk of occurrence of fire and violent reaction, it is not in contact with water. Do not swallow contact, or inhalation. Avoiding contact with the skin. Do not get in eyes. Do not inhale dust, fumes. When you use this product, you should not eat, drink or smoke. Wash hands thoroughly after handling.

## Storage

Safe storage conditions	Because of the risk of occurrence of fire and severe reactions, storing it eliminates the possibility of any contact with water.
Safety packaging material	I use a container that has been defined by the UN transport regulations and the Fire Services Act.

## SECTION 8 Exposure controls and personal protection

**AI**

## Permissible concentration

ACGIH

TLV-TWA 5ppm 10ppm (as a high-temperature AI) (as dust) (2005 edition)
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CANON OPTRON INC.  
 SDS Number: EA03  
 Product Name: AI

# SAFETY DATA SHEET

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

Engineering controls	And placing a safety shower and eye wash in the workplace handling or storage of this material. Making a ventilation exhaust in order to keep the exposure limits or less concentration in the air. When dust, fumes generated in the high heat step, installing a ventilation system in order to keep the concentration below manage air pollutants.
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, wiry
Colour	Silvery white
Odour	None

### AI

pH	<i>No data available</i>
Melting point/Freezing point	<i>660°C</i>
Boiling point/Initial boiling point and boiling range	<i>2327°C</i>
Flash point	<i>No data available</i>
Evaporation rate	<i>Not applicable</i>
Flammability (solid, gas)	<i>No data available</i>
Explosive limits	
LEL	<i>No data available</i>
UEL	<i>No data available</i>
Vapour pressure	<i>No data available</i>
Vapour density (air = 1)	<i>No data available</i>
Specific gravity (Relative density) (Density)	<i>2.7</i>
Solubility	
Water	<i>Insoluble</i>
Other solvents	<i>No data available</i>

CANON OPTRON INC.

SDS Number: EA03

Product Name: AI

## SAFETY DATA SHEET

rev. 6.5 Date of Issue 2014/9/1

Revised Date 2018/6/6

n-octanol/Water partition  
coefficient*Not applicable*

Auto-ignition temperature

*590°C*

Decomposition temperature

*Not applicable*

Viscosity (Coefficient of viscosity)

*No data available*

Other data

*None*

## SECTION 10 Stability and reactivity

***AI***

Reactivity

*No data available*

Chemical stability

*When the powder or granular form, mixed with air, there is a possibility of dust explosion.*

Hazardous reactions

*Pose a risk of explosion or fire in response violently with oxidants, strong acids and chlorinated hydrocarbons.  
Pose a risk of explosion or fire in response water, and alcohol.*

Conditions to avoid

*Air, moisture, water*

Incompatible materials

*Oxidizing agent, hydrochloric acid, chlorinated hydrocarbons, alcohols*

Hazardous decomposition products

*To generate hydrogen gas on contact with water, acid, and alkali.*

## SECTION 11 Hazard information

***AI***

Acute toxicity(oral)

*No data available*

Acute toxicity(dermal)

*No data available*

Acute toxicity(inhalation)

*No data available*

Skin corrosion/irritation

*No data available*

Eye damage/eye irritation

*No data available*Respiratory sensitization/Skin  
sensitization*No data available*

Germ cell mutagenicity

*No data available*

Carcinogenicity

*No data available*

Reproductive toxicity

*No data available*Specific target organ toxicity(single  
exposure)*No data available*Specific target organ  
toxicity(repeated exposure)*Pulmonary fibrosis has been observed in long-term exposure of human cases, lung may be determined to be a target organ. There is a description effects on the nervous system and the resulting in impaired functions.*

Aspiration hazard

*No data available*

Others

*None*

CANON OPTRON INC.  
 SDS Number: EA03  
 Product Name: AI

# SAFETY DATA SHEET

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

## SECTION 12 Ecological information

***AI***

### Ecotoxicity

Fish	No data available
Crustaceantoxicity(single exposure)	No data available
Algae	No data available
Other organisms	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
Others	No data available

## 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

***AI***

### International regulation

UN classification	Class 4.3
UN number	1396 (IMO, ICAO / IATA)
UN proper shipping name	ALUMINIUM POWDER, UNCOATED
Packing group	II, III
Japanese laws and regulations	Not land regulation information: N Ship Safety Act, Aviation Law
Conditions and specific safety measures of transport	No data available

## SECTION 15 Regulatory information (Japan)

***AI***

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

CANON OPTRON INC.  
 SDS Number: EA03  
 Product Name: AI

# SAFETY DATA SHEET

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

Explosives control Law	<i>None</i>
High-pressure gas security Law	<i>None</i>
Fire fighting Law	<i>There is it in the case of an application or an application</i>
Chemical substances control Law	<i>None</i>
Ship safety Law	<i>There is it in the case of an application or an application</i>
Aviation Law	<i>There is it in the case of an application or an application</i>
Prevention of marine pollution Law	<i>None</i>
Pneumoconiosis Law	<i>There is it in the case of an application or an application</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.

### 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)