

CANON OPTRON INC.

SDS Number: EA02

Product Name: AIF3

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	AIF3
SDS number	EA02
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 3
	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	Category 2
	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)	Classification not possible
	Hazard to the ozone layer	Classification not possible
Label element		
Pictogram (Symbol)	Skull and crossbones	Health Hazard
		
Signal word	Danger	
Hazard statement	Toxic if swallowed. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.	
Precautionary statement		
【Safety measures】	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.	
【First-aid measures】	IF SWALLOWED :Immediately call poison center or doctor/physician If exposed or concerned :Get medical advice/attention. Get medical advice/attention if you feel unwell. Specific treatment Rinse mouth.	
【Storage】	Store locked up.	

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【Disposal】

Dispose of contents/container in accordance with national regulations.

SECTION 3 Composition and information ingredients

Substance/Mixture	Substance
Chemical name or generic name	Aluminium fluoride
Chemical formula	AIF ₃
CAS No.	7784-18-1
Concentration or concentration range	99.9%<
TSCA Inventory	Aluminum fluoride (AIF ₃)
EINECS number	232-051-1
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	If you feel bad, get medical attention, attention.
Skin	Wash with soap and water. If skin irritation occurs, it is possible to receive medical attention, attention.
Eye	Rinse cautiously with water for several minutes. If eye irritation persists, get medical attention, attention.
Ingestion	That you contact your doctor immediately. Rinse the mouth.
Protection of first aiders	No data available

SECTION 5 Fire-fighting measures

Extinguishing media	Water spray, foam, dry chemical, carbon dioxide, dry sand such
Extinguishing media are unsuitable	No data available
Specific hazards	Is a non-flammable, itself does not burn, but there is a risk which break down when heated, to generate fumes and toxic or corrosive /. Is likely to generate toxic gases irritating, corrosive and fire.
Specific extinguishing methods	The Move containers from fire area if this can be done without risk. Eliminate all ignition sources if safe to do so.
Protection of fire-fighters	I wear appropriate respiratory air, the protective clothing (heat resistance).

SECTION 6 Accidental release measures

Personal precautions,protective equipment,and emergencyprocedures	Immediately, I isolate leakage area as the appropriate distance in all directions.
Environmental precautions	It should not be released to the environment.

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Methods and materials for containment and methods and materials for cleaning up

Is moistened with water, to prevent the dispersion reduces the dust in the air.

Secondary disaster prevention measures

Was covered with a plastic sheet to prevent scattering.

SECTION 7 Handling and storage precautions

Handling

Technical measures

It does not require technical measures specially.

Safety handling precautions

Wash hands thoroughly after handling.
When you use this product, you should not eat, drink or smoke.
Be sure to get the instruction manual before use.
Do not handle until you read and understand all safety precautions.
The use of appropriate personal protective equipment.
Do not inhale dust, fumes, vapors, spray.

Storage

Safe storage conditions

To keep it under lock and key.

Safety packaging material

No data available

SECTION 8 Exposure controls and personal protection

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Permissible concentration

ACGIH

*TWA 2.5mg/m3 (as F)
(2010)*

Engineering controls

The workshop handling or storage of this material, it is recommended that you install the appropriate safety shower and eye wash.
In order to prevent the exposure, it is recommended that you install the appropriate general ventilation equipment, local exhaust ventilation in the workplace.

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

Colour

White

Odour

None

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pH	<i>No data available</i>
Melting point/Freezing point	<i>1090°C</i>
Boiling point/Initial boiling point and boiling range	<i>1272°C</i>
Flash point	<i>Noncombustibility</i>
Evaporation rate	<i>No data available</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>1mmHg (1238 °C)</i>
Vapour density (air = 1)	<i>No data available</i>
Specific gravity (Relative density) (Density)	<i>2.88</i>
Solubility	
Water	<i>0.559 g/100 ml (25 °C)</i>
Other solvents	<i>The dissolved alcohol, acetone</i>
n-octanol/Water partition coefficient	<i>No data available</i>
Auto-ignition temperature	<i>Noncombustibility</i>
Decomposition temperature	<i>No data available</i>
Viscosity (Coefficient of viscosity)	<i>No data available</i>
Other data	<i>None</i>

SECTION 10 Stability and reactivity

AIF3

Reactivity	<i>No data available</i>
Chemical stability	<i>I is considered stable.</i>
Hazardous reactions	<i>The substance decomposes on heating producing (fluorine) toxic fumes.</i>
Conditions to avoid	<i>Heating</i>
Incompatible materials	<i>No data available</i>
Hazardous decomposition products	<i>Toxic fumes (fluorine)</i>

SECTION 11 Hazard information

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Acute toxicity(oral)	<i>Mouse LD50 value: 103 mg / kg</i>
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Acute toxicity(dermal)	<i>No data available</i>
Acute toxicity(inhalation)	<i>No data available</i>
Skin corrosion/irritation	<i>No data available</i>
Eye damage/eye irritation	<i>Eye irritant severe. Aluminum fluoride description that there is a strong irritant to the organization.</i>
Respiratory sensitization/Skin sensitization	<i>Reported three workers of the substance production plant and developed asthma-like symptoms associated with airway obstruction disease resiliency.</i>
Germ cell mutagenicity	<i>Negative in the Ames test</i>
Carcinogenicity	<i>ACGIH: A4 Substance that can not be classified as a carcinogen to humans IARC: Group 3 Can not be classified for carcinogenicity to humans</i>
Reproductive toxicity	<i>In the test of inhalation exposure during pregnancy in rats, an increase in pre-implantation of a fertilized egg mortality, and caused the teratogenicity and embryo toxicity in fetuses at high concentration group.</i>
Specific target organ toxicity(single exposure)	<i>Respiratory tract irritation as acute symptoms after exposure to the substance. I stimulate the throat and nose.</i>
Specific target organ toxicity(repeated exposure)	<i>According to the epidemiological study of workers who received the exposure of fluoride in aluminum smelting , most of the 107 employees who were working at high concentrations under relatively becomes fluorosis after exposure of 10 years , bone sclerosis of severe to moderate degree of mobility of the spine is limited was observed after 15 years . There is no change in the concentration of 2.65 mg/m3 average , bone changes were found at a concentration of 3.38 mg/m3 average workers by occupational exposure of fluoride . Bone fluorosis of varying degrees was observed with respect to the substance , calcification of the pelvic ligaments , only joint in the case of exposure of long-term in overdose increase in bone density of the pelvis and spine , absorption into the bone of fluoride proceeds calcification of ligaments structure of paravertebral other are found to not . May pose a risk to workers inhalation of fluoride is involved in aluminum production , but the majority of workers are unaffected clinically , clinical fluorosis is rare .</i>
Aspiration hazard	<i>No data available</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>

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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.
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	<i>6.1</i>
UN number	<i>3288</i>
UN proper shipping name	<i>TOXIC SOLID, INORGANIC, N.O.S.</i>
Packing group	<i>III</i>
Japanese laws and regulations	<i>Fire Service Act, Ship Safety Act, Aviation Law</i>
Conditions and specific safety measures of transport	<i>Hazardous materials that the transport container in which the hazardous materials fell off, or was contained dangerous goods to fall, be stacked so as not to break or fall. Be transported so as not to cause upset container containing dangerous goods or hazardous materials or friction significantly. During transportation of hazardous materials, if there is a possibility that the equal disasters hazardous materials leak significantly occurs, and that she shall take emergency measures to prevent the disaster, and to report to the relevant authorities of the fire service and other nearest. Requires retention of yellow card when transporting. 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.</i>

SECTION 15 Regulatory information (Japan)

AIF3

PRTR Law	<i>None</i>
Occupational Safety and Health Law	<i>There is it in the case of an application or an application</i>
Poisonous and Deleterious Substances control Law	<i>None</i>
Explosives control Law	<i>None</i>
High-pressure gas security Law	<i>None</i>
Fire fighting Law	<i>None</i>
Chemical substances control Law	<i>None</i>

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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>None</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

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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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