

CANON OPTRON INC.

SDS Number: ES22

Product Name: SURFCLEAR 100

## SAFETY DATA SHEET

rev. 6.7 Date of Issue 2014/9/1

Revised Date 2019/1/7

## SECTION 1 Chemicals and company identification

Chemical identifier	SURFCLEAR 100
SDS number	ES22
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)	Classification not possible
	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	Category 1A
	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)	Category 1
	Specific target organ toxicity(repeated exposure)	Classification not possible
	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 an allergic skin reaction. Causes damage to organs.	
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. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.	
【First-aid measures】	IF ON SKIN: Wash with plenty of soap and water. If exposed or concerned: Call a poison center or doctor/physician. Specific treatment If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.	
【Storage】	Store in a well-ventilated place. Keep container tightly closed. 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	Mixture		
Chemical name or generic name	<i>Copper</i>	<i>Iron</i>	<i>Fluoropolyether compound</i>
Chemical formula	<i>Cu</i>	<i>Fe</i>	<i>Fluoropolyether compound</i>
CAS No.	<i>7440-50-8</i>	<i>7439-89-6</i>	<i>Confidential-6</i>
Concentration or concentration range	Cu+Fe : 96.9-99.0 Fluoropolyether compound : 1.0-3.1  Total = 100%		
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 victim immediately and keep at rest in a position comfortable for breathing. If you feel bad, you should contact your doctor.
Skin	Take off all contaminated clothing immediately Remove /. I flush for 15 minutes or more with soap and plenty of water. If symptoms blisters and pain comes, get medical attention if necessary.
Eye	Be flush eyes for at least 15 minutes with clean water immediately. If you are using the contact lenses, as long as it is not fixed, it can be washed and removed. Be subject to medical attention without fail.
Ingestion	Rinse mouth immediately. Be subject to medical attention without fail.
Protection of first aiders	Rescuers Wear protective equipment protective eyewear, such as protective gloves.

## SECTION 5 Fire-fighting measures

Extinguishing media	The product itself does not burn.
Extinguishing media are unsuitable	No data available
Specific hazards	No data available
Specific extinguishing methods	The movable container, and transferred to a safe place as soon as possible in case of surrounding fire.
Protection of fire-fighters	In fire fighting, I want to wear (gloves, glasses, mask) the appropriate protective equipment.

## SECTION 6 Accidental release measures

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Personal precautions, protective equipment, and emergency procedures	Wear it (which specify what suited the nature of the product) protective equipment, such as spray or on skin, we do not want to dust inhalation, the gas at the time of work.
Environmental precautions	Do not flowing in rivers and sewage directly spillage.
Methods and materials for containment and methods and materials for cleaning up	And collected in drums or paper bags are collected to wear or have rake those leaked. I to absorb in saw-dust or sediment residue content of the small amount of recovery after.
Secondary disaster prevention measures	No data available

## SECTION 7 Handling and storage precautions

### Handling

Technical measures	I wear the appropriate protective equipment safety glasses, protective gloves, etc.. After handling Wash hands, face, etc., and gargle.
Safety handling precautions	When handling, to handle in place with equipment for general ventilation or local exhaust under.

### Storage

Safe storage conditions	Store tightly closed container in a well-ventilated place.
Safety packaging material	No data available

## SECTION 8 Exposure controls and personal protection

	<u><i>Cu</i></u>	<u><i>Fe</i></u>	<u><i>Fluoropolyether compound</i></u>
Permissible concentration			
ACGIH	TLV-TWA 0.2 mg/m <sup>3</sup> (fume) TLV-TWA 1 mg/m <sup>3</sup> (dust or mist) (2005 Edition)	No data	TWA 200ppm (methanol decomposition products:) STEL 250ppm (methanol decomposition products:) (2012 edition)
Engineering controls	To use devices that are sealed as much as possible, local exhaust ventilation or equipment.		
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	Cup, fibrous

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Colour Red copper color and dark gray

Odour None

	<u><i>Cu</i></u>	<u><i>Fe</i></u>	<u><i>Fluoropolyether compound</i></u>
pH	No data	No data	No data available
Melting point/Freezing point	1083°C	1535°C	Not applicable
Boiling point/Initial boiling point and boiling range	2595°C	2730°C	Not applicable
Flash point	No data	None	No data available
Evaporation rate	No data	No data	No data available
Flammability (solid, gas)	Combustible	No data	No data available
Explosive limits			
LEL	No data	No data	No data available
UEL	No data	No data	No data available
Vapour pressure	0.073Pa (mp.) 0.13kPa (1628 °C)	No data	Fine (25 °C)
Vapour density (air = 1)	No data	No data	No data available
Specific gravity (Relative density) (Density)	8.92	7.86	1.78 (25°C)
Solubility			
Water	Insoluble	Insoluble	Insoluble
Other solvents	Soluble in nitric acid and heated sulfuric acid. Dissolves slowly in ammonium hydroxide. Organic solvent: No data.	No data	No data available
n-octanol/Water partition coefficient	log Pow = -0.57 (EST)	No data	No data available
Auto-ignition temperature	No data	No data	No data available
Decomposition temperature	No data	No data	No data available
Viscosity (Coefficient of viscosity)	No data	No data	No data available
Other data	None	None	None

## SECTION 10 Stability and reactivity

	<u><i>Cu</i></u>	<u><i>Fe</i></u>	<u><i>Fluoropolyether compound</i></u>
Reactivity	No data	No data	No data available

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Chemical stability	<i>Turns green upon exposure to humid air. Compounds sensitive to shock are formed by acetylene compounds, ethylene oxides, and azides</i>	<i>Slowly oxidizes in the atmosphere.</i>	<i>Stable under normal conditions</i>
Hazardous reactions	<i>Reacts with oxides (chlorates, bromates, and iodates, etc.), so there is a risk of explosion</i>	<i>Produces rust when in presence of humidity.</i>	<i>Hazardous polymerization will not occur</i>
Conditions to avoid	<i>Contact with humidity and hazardous reactive materials.</i>	<i>High temperature, humidity, and flame</i>	<i>None</i>
Incompatible materials	<i>Acetylene compounds, ethylene oxides, azides, and oxidants (chlorate, bromate, iodate, etc)</i>	<i>Strong acids and ammonia</i>	<i>Strong oxidizing agents, water, acid, alkali</i>
Hazardous decomposition products	<i>Carbon monoxide, carbon dioxide, and copper fumes produced by combustion.</i>	<i>No data</i>	<i>This article is to generate (hydrolysis), methanol in response to mild acid and water, and the alkaline compound. There is a possibility that harmful decomposition gases containing hydrogen fluoride by combustion, carbonyl fluoride, carbon monoxide, and low-molecular fluorocarbons, generates carbon dioxide, or heat.</i>

## SECTION 11 Hazard information

	<b><u>Cu</u></b>	<b><u>Fe</u></b>	<b><u>Fluoropolyether compound</u></b>
Acute toxicity(oral)	<i>Oral rabbit LD<sub>50</sub> 120 μg/kg</i>	<i>Oral administration in rat: LD<sub>50</sub>: 30 g/kg, Intraperitoneal administration in rat: LD<sub>50</sub>: 20 mg/kg Oral administration in guinea pig: LD<sub>50</sub>: 20 mg/kg</i>	<i>LD<sub>50</sub>: 14.1g/kg (rabbit) (methanol decomposition products:) LD<sub>50</sub>: 7300mg/kg (rat) (methanol decomposition products:) LD<sub>50</sub>: 5628mg/kg (rat) (methanol decomposition products:)</i>
Acute toxicity(dermal)	<i>No data</i>	<i>No data</i>	<i>LD<sub>50</sub>: 15800mg/kg (rabbit) (methanol decomposition products:)</i>
Acute toxicity(inhalation)	<i>When inhaled, causes a burning sensation, cough, headache, and sore throat.</i>	<i>No data</i>	<i>LC<sub>50</sub>: 87.5mg / l (rat) (methanol decomposition products:)</i>

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Skin corrosion/irritation	<i>When contacted with skin, produces a symptom of reddening.</i>	<i>No data</i>	<i>No data available</i>
Eye damage/eye irritation	<i>If contacted with the eyes, symptoms of reddening and pain occur. There may be irritation.</i>	<i>No data</i>	<i>Strong eye irritation (methanol decomposition products:)</i>
Respiratory sensitization/Skin sensitization	<i>The Japan Society for Occupational Health classifies this as Group 2 Skin Sensitization (a substance thought probably to sensitize human), but The Japanese Society for Dermatoallergology and Contact Dermatitis has not classified this.</i>	<i>No data</i>	<i>No data available</i>
Germ cell mutagenicity	<i>No data</i>	<i>No data</i>	<i>No data available</i>
Carcinogenicity	<i>The EPA has classified the product as Group D (substances not classifiable as to human carcinogenicity).</i>	<i>No data</i>	<i>No data available</i>
Reproductive toxicity	<i>No data</i>	<i>No data</i>	<i>Fear fertility or the unborn child (methanol decomposition products:)</i>
Specific target organ toxicity(single exposure)	<i>Fumes irritate the upper respiratory tract. Considered to be respiratory tract irritation.</i>	<i>No data</i>	<i>Which may affect the following organs Central nervous system, systemic toxicity, organ of vision, respiratory tract irritation, anesthetic action (methanol decomposition products:)</i>
Specific target organ toxicity(repeated exposure)	<i>Hepatic enlargement was observed in workers exposed to a high concentration in the air (estimated intake: 200 mg/day).</i>	<i>No data</i>	<i>May have an impact on the following organs through prolonged or repeated exposure over time. Nakagami nervous system, organ of vision (methanol decomposition products:)</i>
Aspiration hazard	<i>No data</i>	<i>No data</i>	<i>No data available</i>
Others	<i>None</i>		

## SECTION 12 Ecological information

	<u><b>Cu</b></u>	<u><b>Fe</b></u>	<u><b>Fluoropolyether compound</b></u>
Ecotoxicity			
Fish	<i>No data</i>	<i>No data</i>	<i>No data available</i>

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Crustaceantoxicity(single exposure)	No data	No data	No data available
Algae	No data	No data	No data available
Other organisms	No data	No data	EC50 giant white water flea:> 10000mg / l 48Hr (methanol decomposition products:) LC50 Fathead minnow (Pimephales promelas):> 100mg / l 96Hr (methanol decomposition products:)
Persistence and degradability	No data	No data	No data available
Bioaccumulative potential	No data	No data	No data available
Mobility in soil	No data	No data	No data available
Hazard to the ozone layer	No data	No data	No data available
Others	No data	No data	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

	<u>Cu</u>	<u>Fe</u>	<u>Fluoropolyether compound</u>
International regulation			
UN classification	N/A	N/A	Not applicable
UN number	None	None	None
UN proper shipping name	None	None	None
Packing group	N/A	N/A	Not applicable
Japanese laws and regulations	None	None	None
Conditions and specific safety measures of transport	When transporting, protect from direct sunlight and take on cargo without breakage of container, corrosion and leakage. Do not transport with food and feedstuffs. Do not stack heavy good thereupon.	No data	Not applicable

## SECTION 15 Regulatory information (Japan)



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	<u>Cu</u>	<u>Fe</u>	<u>Fluoropolyether compound</u>
PRTR Law	None	None	No data available
Occupational Safety and Health Law	There is it in the case of an application or an application	None	No data available
Poisonous and Deleterious Substances control Law	None	None	No data available
Explosives control Law	None	None	No data available
High-pressure gas security Law	None	None	No data available
Fire fighting Law	None	There is it in the case of an application or an application	No data available
Chemical substances control Law	None	None	No data available
Ship safety Law	There is it in the case of an application or an application	There is it in the case of an application or an application	No data available
Aviation Law	There is it in the case of an application or an application	There is it in the case of an application or an application	No data available
Prevention of marine pollution Law	None	None	No data available
Pneumoconiosis Law	None	None	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.

## 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)