Safety Data Sheet (SDS)

Date prepared 5-Feb-2016
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Applicable products

C-porous™ PTFE porous film
SEF-010 , SEF-020 , SEF-010(HB) , SEF-110

C-porous™ PTFE porous sheet
SEF-200

1. Product and company identification

Product name	See the applicable products above.
Product code	–
Company name	CHUKOH CHEMICAL INDUSTRIES, LTD.
Address	ATT New Tower 10F, 2-11-7, Akasaka, Minato-ku, Tokyo
Telephone	03-6230-4414/81-3-6230-4417
Fax	03-6230-4413/81-3-6230-4446
Recommended use	For industrial use
Restrictions on use	For industrial use
Information on domestic manufacturers, etc.	See above

2. Hazards identification

GHS Classification	Not applicable
GHS label elements	
Pictures or symbols	No information available
Warning statements	No information available
Hazard information	No information available
Cautionary statements	No information available
Other hazards not related to or addressed by the GHS classification	No information available
Summary of important indications and possible emergencies	No information available
Other	Not hazardous under normal handling. Heating fluorocarbon resin produces pyrolysis products (fumes), which may cause eye, nose, and lung irritation if inhaled.

3. Composition/information on ingredients

Substance/Mixture: Substance

Chemical name or generic name	Concentration or concentration ranges	Reference No. in gazetted list in Japan		CAS No.
		Chemical Substances Control Law	Industrial Safety and Health Act	
Poly-Tetra-Fluoro-Ethylene (PTFE)	100%	6-939	6-939	9002-84-0

Ingredients contributing to GHS classification: No information available

4. First-aid measures

Inhalation: If fumes from heating or burning are inhaled, remove to fresh air and keep at rest in a position comfortable for breathing.
Seek medical advice/attention if you feel unwell.

Skin contact	Wash with plenty of soap and water. If molten polymer contacts skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Seek medical advice/attention if irritation occurs.
Eye contact	Flush eyes cautiously with water for several minutes. Seek medical advice/attention if irritation persists.
Ingestion	Rinse mouth. Seek medical advice/attention if you feel unwell.
The most important manifestations of acute and delayed symptoms	No information available
Precautions necessary for the protection of persons who provide first-aid measures	No information available
Special precautions for physicians	No information available

5. Fire-fighting measures

Appropriate fire extinguishing media	Use extinguishing media appropriate for surrounding fire: Water, foam, powder, etc.
Fire extinguishing media that should not be used in case of fire	No information available
Specific fire hazards	This product hardly flammable. Fire may produce irritating, corrosive, and/or toxic gas.
Specific fire extinguishing methods	Move product from fire area if you can do so without risk. Fight fire from maximum distance and use unmanned hose holders or monitor nozzles.
Special protective equipment and precautions for firefighters	Wear self-contained breathing apparatus (SCBA). Firefighters should wear protection clothing and self-contained breathing apparatus (SCBA).
Cautions	When fluorocarbon resin is exposed to high temperatures, it produces harmful particulates, fumes, and gases. In case of fire, evacuate upwind as far as possible to avoid inhalation.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Wear suitable protective equipment (see Section 8, Exposure controls/personal protection) to prevent inhalation and exposure of eyes or skin.
Environmental precautions	Avoid discharge to rivers and environmental effects.
Methods and materials for containment and cleaning up	Break into small pieces. Collect if scatter. Dispose in accordance with Section 13.
Measures to prevent secondary accidents	No information available

7. Handling and storage

Handling

Technical measures	Install equipment in Section 8, Exposure controls/personal protection. Wear protective equipment.
Precautions for safe handling	Prohibit the use of heat, sparks, and fire in the surrounding area. Watch out for fire. Do not carry cigarettes, cigars or tobaccos and do not smoke in the workplace as decomposition gas may be inhaled by smoking if the substance contacts them. Ensure good ventilation/exhaustion. Avoid breathing dust/fume. Wash hands thoroughly after handling.

	Avoidance of contact	See Section 10, Stability and reactivity.
	Hygiene measures	Wash hands thoroughly after handling.
Storage		
	Conditions for safe storage	Stable at normal storage conditions. Storage at or below 25℃ and 60% RH is preferred. Keep away from oxidizing agents.
	Safe containers and packaging materials	No restriction for packaging materials. Use containers which will not be broken.

8. Exposure controls/personal protection

Control concentration		No settings
Allowable concentration		No settings
Engineering measures		In a process to heat over 260℃, good ventilation is necessary and also local exhaust equipment is to be installed.
Protective equipment		
	Respiratory protection	Wear appropriate respiratory protection if ventilation is not enough.
	Hand protection	Wear eye protection.
	Eye protection	Wear personal protective equipment including protective clothing and protective mask if necessary.
	Skin and body protection	Wear personal protective equipment including protective clothing and protective mask if necessary.

9. Physical and chemical properties

Appearance		
	Physical state	Solid
	Color	White
Odor		Odorless
Melting point/freezing point		Not available
Boiling point, initial boiling point, and boiling range		Not available
Flammability		Flame Retardancy
Lower explosion limit and upper explosion limit/flammable limit		
	Lower	Not available
	Upper	Not available
Flash point		Not available
Autoignition temperature		Not available
Decomposition temperature		Not available
pH		Not available
Viscosity		Not available
Solubility		Insoluble in water
Partition coefficient (n-octanol/water)		Not available
Vapor pressure		Not available
Density and/or relative density		0.17-0.99g/㎤

Relative gas density	Not available
Particle characteristics	Not applicable
Other data	Not available

10. Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions. Begins to decompose, very slowly, at temperatures above 260℃. Thermal decomposition is more rapid at temperatures above 400℃.
Chemical stability	Stable under normal storage and handling conditions. May react with metal powders such as aluminum and magnesium or with fluorine compounds such as fluorine and chlorine trifluoride, and cause fire and explosion.
Possibility of hazardous reactions	Hazardous reaction or polymerization generating excessive pressure/heat will not occur.
Conditions to avoid	Heat. Contact with incompatible materials.
Incompatible materials	Metal powders such as aluminum and magnesium or fluorine compounds such as fluorine and chlorine trifluoride.
Hazardous decomposition products	Thermal decomposition of this product may evolve the following decomposition products at the following temperatures: Carbonyl fluoride and hydrogen fluoride (above 400℃). Tetrafluoroethylene (above 430℃). Hexafluoropropylene (above 440℃). Perfluoroisobutylene (above 475℃).

11. Toxicological information

Acute toxicity		
	Oral	LD50 in mouse : 1,250mg／kg LD50 in rat : 12,500mg／kg
	Dermal	Not available
	Inhalation (vapor)	Not available
	Inhalation (dust)	Not available
Skin corrosion/irritation		Not available
Serious eye damage/eye irritation		Not available
Respiratory or skin sensitization		Not available
Germ cell mutagenicity		Not available
Carcinogenicity		Not available
Reproductive toxicity		Not available
Specific target organ toxicity (single exposure)		Not available
Specific target organ toxicity (repeated exposure)		Not available
Swallowing hazard		Not available
Others	Thermal decomposition of fluoropolymers may generate polymer fumes, hydrogen fluoride, carbonyl fluoride, and perfluoroisobutylene. The toxicity information is as follows.	
	Effects on health	Inhalation of fumes from burning may produce polymer fume fever, a temporary flu-like condition with fever, chills and cough. This may last for a whole day and night. Skin absorption will not occur. There are no reports of sensitization.

Effects of hydrogen fluoride	Inhalation of low concentrations of hydrogen fluoride can initially include symptoms of choking, coughing, and severe eye, nose, and throat irritation, fever, chills for one to two days, followed by difficulty in breathing, cyanosis, and pulmonary edema. Overexposure to hydrogen fluoride can injure the liver and kidneys.
Effects of carbonyl fluoride	Skin: Irritation with discomfort or rash Eye: Corrosion with corneal or conjunctival ulceration Upper respiratory passage: Irritation Lung: Temporary irritation effects with cough, discomfort, difficulty in breathing, or shortness of breath (Individuals with pre-existing diseases of the lungs may have increased susceptibility to the toxicity after excessive exposures to thermal decomposition products.)
Effects of perfluoroisobutylene	Even trace amounts are extremely toxic.

12. Ecological information

Ecotoxicity	Not available Handle with care as leakage or disposal may affect the environment. In particular, take measures to prevent the product from flowing into the ocean via soil, drains and rivers.
Persistence and degradability	Not available
ecological accumulative property	Not available
Mobility in soil	Not available
Hazardous to the ozone layer	Does not contain any substances that deplete the ozone layer listed in Annexes to the Montreal Protocol.

13. Disposal considerations

Information on safe and environmentally desirable disposal or recycling of chemicals, contaminated containers and packaging	Dispose in accordance with applicable laws and regulations and standards of local governments. Entrust the disposal to a licensed waste disposal contractor or a local public body who conducts the disposal. When entrusting the disposal to a disposal contractor, notify the danger and toxicity thoroughly to the contractor.
Contaminated container and packaging	Dispose in accordance with applicable laws and regulations and standards of local governments.

14. Transport information

UN number	Not dangerous goods
Item (UN transport name)	Not dangerous goods
UN Classification	Not dangerous goods
Container grade	Not dangerous goods
marine pollutant	Not dangerous goods
Liquid substances transported in bulk according to MARPOL 73/78 Annex II and IBC Code	Not dangerous goods

Special safety measures for transportation or means of transportation	Confirm that there is no damage, corrosion, or leakage of the containers before transportation. Avoid direct sunlight at transportation. Load containers not to cause damage, corrosion or leakage and thoroughly prevent load collapse. Do not stack heavy objects.
Regulatory information on domestic regulations, if any	Not applicable

15. Regulatory information

Applicable laws and regulations and information on requirements imposed by such laws and regulations

Pollutant Release and Transfer Register (PRTR)	Not applicable
Industrial Safety and Health Law	Not applicable
Poisonous and Deleterious Substances Control Act	Not applicable
Other applicable laws and regulations and information on requirements imposed by	Not applicable

16. Other information

		Hazard statements herein are made based on the assumption of industrial use and general handling. Handle with care at the actual use by referring to the hazard statements herein.
	Restrictions on use	This product is not intended for medical use. Do not use this product for implant or in a way that will contact with the body fluid or tissue. Consult with us in advance if it is expected to use the product in medical field.
	References	SDS made by raw material manufacturers.

The information herein may be revised if any new findings are obtained.
Values of concentration and physical and chemical properties are not guaranteed values.
Hazards identification was prepared based on the documents, information and data available at the time of preparation, but it does not mean that all documents, information and data are covered.