

# SAFETY DATA SHEET



## Capstone™ FS-10 Fluorosurfactant

Version	Revision Date:	SDS Number:	Date of last issue: 05/30/2018
8.0	10/08/2018	1334799-00035	Date of first issue: 02/27/2017

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### SECTION 1. IDENTIFICATION

Product name : Capstone™ FS-10 Fluorosurfactant

SDS-Identcode : 130000042669

#### Manufacturer or supplier's details

Company name of supplier : The Chemours Company FC, LLC

Address : 1007 Market Street  
Wilmington, DE 19899 United States of America (USA)

Telephone : 1-844-773-CHEM (outside the U.S. 1-302-773-1000)

Emergency telephone : Medical emergency: 1-866-595-1473 (outside the U.S. 1-302-773-2000) ; Transport emergency: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

#### Recommended use of the chemical and restrictions on use

Recommended use : Surfactant

Restrictions on use : For professional users only.  
Do not use or resell Chemours™ materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless agreed to by Seller in a written agreement covering such use. For further information, please contact your Chemours representative.

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1C

Serious eye damage : Category 1

#### GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H302 + H332 Harmful if swallowed or if inhaled.

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H314 Causes severe skin burns and eye damage.

Precautionary Statements : **Prevention:**  
P261 Avoid breathing mist or vapors.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**  
P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.  
P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
P363 Wash contaminated clothing before reuse.

**Storage:**  
P405 Store locked up.

**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

Corrosive to the respiratory tract.  
Inhalation of decomposition products in high concentration may cause shortness of breath (lung edema).

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Aqueous surfactant solution.  
Anionic surfactant

### Components

Chemical name	CAS-No.	Concentration (% w/w)
3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctanesulphonic acid	27619-97-2	>= 30 - < 50
Methanol	67-56-1	>= 1 - < 3

Actual concentration is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

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- |   |  |
|---|--|
| General advice  | : In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.   |
| If inhaled  | : If inhaled, remove to fresh air.<br>If not breathing, give artificial respiration.<br>If breathing is difficult, give oxygen.<br>Get medical attention immediately.  |
| In case of skin contact                                     | : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.<br>Get medical attention immediately.<br>Wash clothing before reuse.<br>Thoroughly clean shoes before reuse.   |
| In case of eye contact                                      | : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.<br>If easy to do, remove contact lens, if worn.<br>Get medical attention immediately.   |
| If swallowed  | : If swallowed, DO NOT induce vomiting.<br>If vomiting occurs have person lean forward.<br>Call a physician or poison control center immediately.<br>Rinse mouth thoroughly with water.<br>Never give anything by mouth to an unconscious person.  |
| Most important symptoms and effects, both acute and delayed | : Inhalation may provoke the following symptoms:<br>Respiratory disorder<br>Skin contact may provoke the following symptoms:<br>Irritation<br>Discomfort<br>Itching<br>Redness<br>Swelling of tissue<br>Eye contact may provoke the following symptoms<br>Eye disease<br>Blindness<br>Ulceration<br>Pain<br>Lachrymation<br>Harmful if swallowed or if inhaled.<br>Causes serious eye damage.<br>Causes severe burns.<br>Causes digestive tract burns.<br>Corrosive to respiratory system. |
| Protection of first-aiders                                  | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.  |
| Notes to physician  | : Treat symptomatically and supportively.  |

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### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : None known.
- Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Hydrogen fluoride  
carbonyl fluoride  
potentially toxic fluorinated compounds  
aerosolized particulates  
Carbon oxides
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : Discharge into the environment must be avoided.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g., by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material.  
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

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Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use with local exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.  
Do not breathe vapors or spray mist.  
Do not swallow.  
Do not get in eyes.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep container tightly closed.  
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.  
Store locked up.  
Keep tightly closed.  
Keep in a cool, well-ventilated place.  
Store in accordance with the particular national regulations.  
Reacts with many metals to liberate hydrogen gas which can form explosive mixtures with air. Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Organic peroxides  
Explosives
- Recommended storage temperature : > 41 °F / > 5 °C

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m <sup>3</sup>	NIOSH REL
		ST	250 ppm 325 mg/m <sup>3</sup>	NIOSH REL

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		TWA	200 ppm 260 mg/m <sup>3</sup>	OSHA Z-1
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## Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Hydrofluoric acid	7664-39-3	TWA	3 ppm 2.5 mg/m <sup>3</sup>	NIOSH REL
		C	6 ppm 5 mg/m <sup>3</sup>	NIOSH REL
		TWA	3 ppm	OSHA Z-2
		TWA	0.5 ppm (Fluorine)	ACGIH
		C	2 ppm (Fluorine)	ACGIH
Carbonyl difluoride	353-50-4	TWA	2 ppm	ACGIH
		STEL	5 ppm	ACGIH
		ST	5 ppm 15 mg/m <sup>3</sup>	NIOSH REL
		TWA	2 ppm 5 mg/m <sup>3</sup>	NIOSH REL
Carbon dioxide	124-38-9	TWA	5,000 ppm	ACGIH
		STEL	30,000 ppm	ACGIH
		TWA	5,000 ppm 9,000 mg/m <sup>3</sup>	OSHA Z-1
		TWA	5,000 ppm 9,000 mg/m <sup>3</sup>	NIOSH REL
		ST	30,000 ppm 54,000 mg/m <sup>3</sup>	NIOSH REL
Carbon monoxide	630-08-0	TWA	25 ppm	ACGIH
		TWA	35 ppm 40 mg/m <sup>3</sup>	NIOSH REL
		C	200 ppm 229 mg/m <sup>3</sup>	NIOSH REL
		TWA	50 ppm 55 mg/m <sup>3</sup>	OSHA Z-1

## Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

**Engineering measures** : Processing may form hazardous compounds (see section

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10).  
Minimize workplace exposure concentrations.  
Use with local exhaust ventilation.

### Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection  
Material : Viton (R)

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often!

Eye protection : Wear the following personal protective equipment:  
Chemical resistant goggles must be worn.  
If splashes are likely to occur, wear:  
Face-shield

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : light brown

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Odor	:	odorless
Odor Threshold	:	No data available
pH	:	0.75
Melting point/freezing point	:	No data available
Solidification / Setting point	:	41 °F / 5 °C
Initial boiling point and boiling range	:	212 °F / 100 °C (1,013 hPa)
Flash point	:	does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	23.4 hPa (68 °F / 20 °C)
Relative vapor density	:	No data available
Relative density	:	1.15 (68 °F / 20 °C)
Solubility(ies)	:	
Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	> 392 °F / > 200 °C
Viscosity	:	
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	Not applicable

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### SECTION 10. STABILITY AND REACTIVITY



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Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents Bases

### Hazardous decomposition products

Thermal decomposition	:	Hydrofluoric acid Carbonyl difluoride Carbon dioxide Carbon monoxide
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## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

Inhalation  
Skin contact  
Ingestion  
Eye contact

### Acute toxicity

Harmful if swallowed or if inhaled.

### Product:

Acute oral toxicity	:	LD50 (Rat): 1,871 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 4.55 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

### Components:

#### 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctanesulphonic acid:

Acute inhalation toxicity	:	Acute toxicity estimate (Rat): 1.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Expert judgment Remarks: Based on data from similar materials  Assessment: Corrosive to the respiratory tract.
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### Methanol:

Acute oral toxicity	: Acute toxicity estimate (Humans): 300 mg/kg Method: Expert judgment
Acute inhalation toxicity	: Acute toxicity estimate: 3 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Expert judgment Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI
Acute dermal toxicity	: Acute toxicity estimate (Humans): 300 mg/kg Method: Expert judgment

### Skin corrosion/irritation

Causes severe burns.

### Product:

Species	: Not tested on animals
Exposure time	: 42 min
Method	: In Vitro Membrane Barrier Test Method for Skin Corrosion - CORROSITEX
Result	: Corrosive after 1 to 4 hours of exposure

### Components:

#### 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctanesulphonic acid:

Species	: Not tested on animals
Method	: In Vitro Membrane Barrier Test Method for Skin Corrosion - CORROSITEX
Result	: Corrosive after 3 minutes to 1 hour of exposure
Remarks	: Information given is based on data obtained from similar substances.

### Methanol:

Species	: Rabbit
Result	: No skin irritation

### Serious eye damage/eye irritation

Causes serious eye damage.

### Product:

Species	: Not tested on animals
Result	: Irreversible effects on the eye

### Components:

#### 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctanesulphonic acid:

Species	: Rabbit
Result	: Irreversible effects on the eye
Remarks	: Based on data from similar materials

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### **Methanol:**

Species	: Rabbit
Result	: No eye irritation

### **Respiratory or skin sensitization**

#### **Skin sensitization**

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

### **Product:**

Test Type	: Local lymph node assay (LLNA)
Species	: Mouse
Assessment	: Does not cause skin sensitization.

### **Components:**

#### **Methanol:**

Test Type	: Maximization Test
Routes of exposure	: Skin contact
Species	: Guinea pig
Result	: negative

### **Germ cell mutagenicity**

Not classified based on available information.

### **Components:**

#### **Methanol:**

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
	Test Type: In vitro mammalian cell gene mutation test Result: negative
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Result: negative

### **Carcinogenicity**

Not classified based on available information.

### **Components:**

#### **Methanol:**

Species	: Mouse
Application Route	: inhalation (vapor)
Exposure time	: 18 Months
Result	: negative

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**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Reproductive toxicity

Not classified based on available information.

#### Components:

##### **Methanol:**

Effects on fertility	:	Test Type: Fertility/early embryonic development Species: Mouse Application Route: Ingestion Result: negative
Effects on fetal development	:	Test Type: Embryo-fetal development Species: Mouse Application Route: Ingestion Result: positive Remarks: The effects were seen only at maternally toxic doses.

### STOT-single exposure

Not classified based on available information.

#### Components:

##### **Methanol:**

Target Organs	:	Eyes, Central nervous system
Assessment	:	Causes damage to organs.

### STOT-repeated exposure

Not classified based on available information.

### Repeated dose toxicity

#### Product:

Species	:	Rat
Application Route	:	oral (gavage)
Exposure time	:	90 d
Symptoms	:	Liver effects
Species	:	Rabbit
Application Route	:	Dermal
Exposure time	:	90 d
Remarks	:	No significant adverse effects were reported

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### Components:

#### **Methanol:**

Species	:	Rat
NOAEL	:	1.06 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	90 Days

#### **Aspiration toxicity**

Not classified based on available information.

## SECTION 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 107 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 109 mg/l Exposure time: 48 h
Toxicity to algae	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 96 mg/l Exposure time: 72 h
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 2.62 mg/l Exposure time: 90 d

### Components:

#### **Methanol:**

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 15,400 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 22,000 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC (Oryzias latipes (Orange-red killifish)): 15,800 mg/l Exposure time: 200 h
Toxicity to microorganisms	:	IC50: > 1,000 mg/l Exposure time: 3 h

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### Persistence and degradability

#### Components:

##### **Methanol:**

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 95 % Exposure time: 20 d
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### Bioaccumulative potential

#### Components:

##### **Methanol:**

Bioaccumulation	:	Species: Leuciscus idus (Golden orfe) Bioconcentration factor (BCF): < 10
Partition coefficient: n-octanol/water	:	log Pow: -0.77

### Mobility in soil

No data available

### Other adverse effects

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues	:	Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

UN number	:	UN 3265
Proper shipping name	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Halogenated aliphatic acid)
Class	:	8
Packing group	:	III
Labels	:	8

#### **IATA-DGR**

UN/ID No.	:	UN 3265
Proper shipping name	:	Corrosive liquid, acidic, organic, n.o.s. (Halogenated aliphatic acid)
Class	:	8
Packing group	:	III

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Labels : Corrosive  
Packing instruction (cargo aircraft) : 856  
Packing instruction (passenger aircraft) : 852

### IMDG-Code

UN number : UN 3265  
Proper shipping name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
(Halogenated aliphatic acid)  
Class : 8  
Packing group : III  
Labels : 8  
EmS Code : F-A, S-B  
Marine pollutant : no

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### Domestic regulation

#### 49 CFR

UN/ID/NA number : UN 3265  
Proper shipping name : Corrosive liquid, acidic, organic, n.o.s.  
(Halogenated aliphatic acid)  
Class : 8  
Packing group : III  
Labels : CORROSIVE  
ERG Code : 153  
Marine pollutant : no

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know

#### CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Methanol	67-56-1	5000	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
Skin corrosion or irritation  
Serious eye damage or eye irritation

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**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Methanol	67-56-1	>= 1 - < 5 %
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### US State Regulations

#### Pennsylvania Right To Know

Water	7732-18-5
3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctanesulphonic acid	27619-97-2
Methanol	67-56-1

#### California Prop. 65

WARNING: This product can expose you to chemicals including Methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

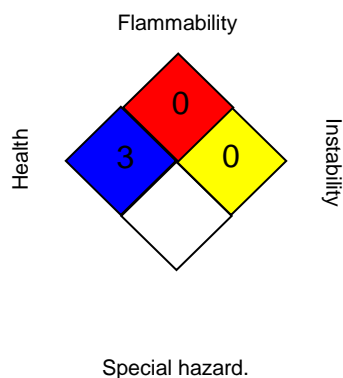
#### California Permissible Exposure Limits for Chemical Contaminants

Methanol	67-56-1
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## SECTION 16. OTHER INFORMATION

### Further information

#### NFPA 704:



#### HMIS® IV:

HEALTH	/	3
FLAMMABILITY		0
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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Before use read Chemours safety information.

For further information contact the local Chemours office or nominated distributors.

All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

We do not routinely test this product for the presence of heavy metals, but these substances are not intentionally added to or used in the manufacture of this product.

### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)



# SAFETY DATA SHEET



## Capstone™ FS-10 Fluorosurfactant

Version	Revision Date:	SDS Number:	Date of last issue: 05/30/2018
8.0	10/08/2018	1334799-00035	Date of first issue: 02/27/2017

ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	:	USA. Occupational Exposure Limits (OSHA) - Table Z-2
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
ACGIH / C	:	Ceiling limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
NIOSH REL / C	:	Ceiling value not be exceeded at any time.
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-2 / TWA	:	8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a>
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## Capstone™ FS-10 Fluorosurfactant

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Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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