

Vers 4.7	ion	Revision Date: 05/20/2022		DS Number: 64019-00012	Date of last issue: 04/01/2022 Date of first issue: 06/20/2017					
SEC	SECTION 1. IDENTIFICATION									
	Product name		:	Krytox™ 143AC						
	Produc	t code	:	D10480065						
	SDS-Id	entcode	:	130000024124						
	Manufa	acturer or supplier's	deta	ails						
	Compa	ny name of supplier	:	The Chemours C	ompany FC, LLC					
	Address		:	1007 Market Stre Wilmington, DE 1	et 9801 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- 773-2000) ; Transport emergency: +1-800-424-9300 (ou the U.S. +1-703-527-3887)						
	Recom	mended use of the c	hen	nical and restriction	ons on use					
	Recommended use		:	Lubricant						
	Restric	tions on use	:	tions involving im internal body fluid written agreemen	only. ell Chemours™ materials in medical applica- plantation in the human body or contact with ls or tissues unless agreed to by Seller in a t covering such use. For further information, our Chemours representative.					

#### **SECTION 2. HAZARDS IDENTIFICATION**

# GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

#### **GHS label elements**

Not a hazardous substance or mixture.

#### Other hazards

The thermal decomposition vapors of fluorinated plastics may cause polymer fume fever with flulike symptoms in humans, especially when smoking contaminated tobacco.

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Substance
Substance name	:	PFPE fluid
CAS-No.	:	Trade secret



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### Components

No hazardous ingredients

### SECTION 4. FIRST AID MEASURES

#### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Not applicable Will not burn
Unsuitable extinguishing media	:	Not applicable Will not burn
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion prod- ucts	:	Hydrogen fluoride carbonyl fluoride potentially toxic fluorinated compounds aerosolized particulates Carbon oxides
Specific extinguishing meth- ods	:	Use extinguishing measures that are appropriate to local cir- cumstances 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	:	Wear self-contained breathing apparatus for firefighting if necessary.



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			Use personal protective equipment.					
SECTION 6. ACCIDENTAL RELEASE MEASURES								
tive e	Personal precautions, protec- tive equipment and emer- gency procedures Environmental precautions			ing advice (see section 7) and personal pro- recommendations (see section 8).				
Envir			Prevent spreading oil barriers). Retain and dispos	akage or spillage if safe to do so. g over a wide area (e.g., by containment or se of contaminated wash water. should be advised if significant spillages				
	ods and materials for inment and cleaning up	:	For large spills, pr ment to keep mat pumped, store red Clean up remainin bent. Local or national n sal of this materia ployed in the clea which regulations Sections 13 and 1	absorbent material. For vide diking or other appropriate contain- erial from spreading. If diked material can be covered material in appropriate container. In a materials from spill with suitable absor- regulations may apply to releases and dispo- I, as well as those materials and items em- nup of releases. You will need to determine are applicable. 5 of this SDS provide information regarding tional requirements.				

#### SECTION 7. HANDLING AND STORAGE

Technical measures		See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation :		Use only with adequate ventilation.
Advice on safe handling	:	Do not breathe decomposition products.
		Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as- sessment Take care to prevent spills, waste and minimize release to the environment.
Conditions for safe storage	:	Keep in properly labeled containers. Store in accordance with the particular national regulations.
Materials to avoid	:	No special restrictions on storage with other products.
Further information on stor- age stability	:	No decomposition if stored and applied as directed.



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#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

#### Occupational exposure limits of decomposition products

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

**Engineering measures** 

Processing may form hazardous compounds (see section 10).

Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations.

#### Personal protective equipment

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Respiratory protection

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are



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			unknown, appropriate respiratory protection should Follow OSHA respirator regulations (29 CFR 1910. use NIOSH/MSHA approved respirators. Protectior by air purifying respirators against exposure to any dous chemical is limited. Use a positive pressure a respirator if there is any potential for uncontrolled re exposure levels are unknown, or any other circums where air purifying respirators may not provide ade protection.			
Hand	I protection					
R	emarks	:	Wash hands befo	pre breaks and at the end of workday.		
Eye p	Eye protection		Wear the followin Safety glasses	g personal protective equipment:		
Skin	and body protection	:	Skin should be w	ashed after contact.		
Hygie	ene measures	:	eye flushing syste king place. When using do n	emical is likely during typical use, provide ems and safety showers close to the wor- ot eat, drink or smoke. red clothing before re-use.		

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	viscous liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
рН	:	7
Melting point/freezing point	:	> -67 °F / > -55 °C
Initial boiling point and boiling range	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Will not burn

## SAFETY DATA SHEET



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		explosion limit / Upper bility limit	:	No data available	
		explosion limit / Lower bility limit	:	No data available	9
١	Vapor p	oressure	:	No data available	)
F	Relative	e vapor density	:	No data available	)
F	Relative	e density	:	1.86 - 1.91	
	Solubilit Wate	ty(ies) er solubility	:	insoluble	
	Partitior octanol/	n coefficient: n- /water	:	No data available	
1	Autoign	ition temperature	:	No data available	)
[	Decom	position temperature	:	662 °F / 350 °C	
١	Viscosit Visc	y osity, kinematic	:	No data available	)
E	Explosiv	ve properties	:	Not explosive	
(	Oxidizir	ng properties	:	The substance of	mixture is not classified as oxidizing.
F	Particle	size	:	Not applicable	

#### SECTION 10. STABILITY AND REACTIVITY

Hazardous decomposition products				
Incompatible materials	:	None.		
Conditions to avoid	:	None known.		
Possibility of hazardous reac- tions	:	Hazardous decomposition products will be formed at elevated temperatures.		
Chemical stability	:	Stable under normal conditions.		
Reactivity	:	Not classified as a reactivity hazard.		

Thermal decomposition	•	:	Hydrofluoric acid
			Carbonyl difluoride
			Carbon dioxide
			Carbon monoxide

### SAFETY DATA SHEET



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#### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Inhalation Skin contact Ingestion Eye contact

#### Acute toxicity

Not classified based on available information.

#### Skin corrosion/irritation

Not classified based on available information.

#### Serious eye damage/eye irritation

Not classified based on available information.

#### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### Germ cell mutagenicity

Not classified based on available information.

#### Carcinogenicity

Not classified based on available information.

- **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.

#### STOT-single exposure

Not classified based on available information.

#### STOT-repeated exposure

Not classified based on available information.

#### Aspiration toxicity

Not classified based on available information.

#### SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available



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	stence and degradab Ita available	ility	
	cumulative potential		
	ta available		
	l <b>ity in soil</b> Ita available		
	adverse effects		
No da	ta available		
CTION	13. DISPOSAL CONS	IDERATIONS	
Dispo	osal methods		
-		· Dianaga of in a	e e e releve e suite le e el re e ulatione
Waste	e from residues	. Dispose of in a	ccordance with local regulations.
	e from residues	: Empty containe handling site fo	ers should be taken to an approved waste r recycling or disposal. specified: Dispose of as unused product.
Conta	uminated packaging	: Empty containe handling site fo If not otherwise	ers should be taken to an approved waste r recycling or disposal.
Conta	uminated packaging 14. TRANSPORT INF national Regulations	Empty containe handling site fo If not otherwise	ers should be taken to an approved waste r recycling or disposal.
Conta CTION Intern UNRT Not re IATA-	Iminated packaging 14. TRANSPORT INF national Regulations TDG egulated as a dangerou	Empty container handling site fo If not otherwise	ers should be taken to an approved waste r recycling or disposal.
Conta CTION Intern UNRT Not re IATA- Not re IMDG	Iminated packaging 14. TRANSPORT INF national Regulations TDG egulated as a dangerou DGR	Empty containe handling site fo If not otherwise ORMATION us good	ers should be taken to an approved waste r recycling or disposal.
Conta CTION Intern UNRT Not re IATA- Not re IMDG Not re Trans	Aminated packaging 14. TRANSPORT INF national Regulations TDG egulated as a dangerou DGR egulated as a dangerou -Code egulated as a dangerou	Empty containe handling site fo If not otherwise ORMATION us good us good us good og to Annex II of MAF	ers should be taken to an approved waste r recycling or disposal.
Conta CTION Intern UNRT Not re IATA- Not re IMDG Not re Trans Not ap	Aminated packaging 14. TRANSPORT INF national Regulations TDG egulated as a dangerou DGR egulated as a dangerou -Code egulated as a dangerou sport in bulk accordin	Empty containe handling site fo If not otherwise ORMATION us good us good us good og to Annex II of MAF	ers should be taken to an approved waste r recycling or disposal. specified: Dispose of as unused product.
Conta CTION Intern UNRT Not re IATA- Not re IMDG Not re Trans Not ap Dome 49 CF	Aminated packaging 14. TRANSPORT INF national Regulations TDG egulated as a dangerou DGR egulated as a dangerou code egulated as a dangerou policable for product as estic regulation	Empty container handling site fo If not otherwise ORMATION US good US good US good IS good IS good IS good IS good IS good IS good IS good	ers should be taken to an approved waste r recycling or disposal. specified: Dispose of as unused product.

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

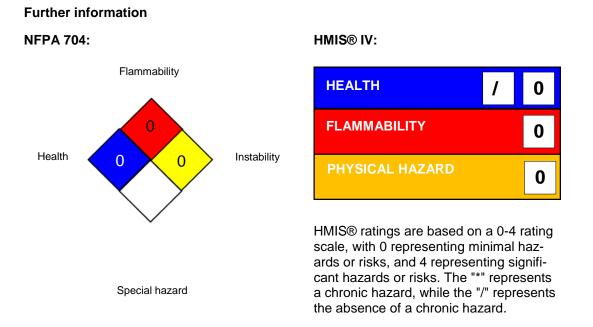
**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity** This material does not contain any components with a section 302 EHS TPQ.



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SAR	A 311/312 Hazards	: No SARA Haz	zards	
SAR	A 313	known CAS n	does not contain any chemical components with umbers that exceed the threshold (De Minimis) Is established by SARA Title III, Section 313.	
US S	tate Regulations			
Penn	sylvania Right To Kno	ow		
	PFPE fluid		Trade secret	
Califo	ornia Prop. 65			
which For m	WARNING: This product can expose you to chemicals including Pentadecafluorooctanoic acid 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. Note to User: This product is not made with PFOA nor is PFOA intentionally present in the product; however, it is possible that PFOA			

may be present as an impurity at background (environmental) levels.

#### **SECTION 16. OTHER INFORMATION**



Krytox<sup>™</sup> and any associated logos are trademarks or copyrights of The Chemours Company FC, LLC.

Chemours  ${}^{\rm M}$  and the Chemours Logo are trademarks of The Chemours Company. Before use read Chemours safety information.

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

#### Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim- its for Air Contaminants



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ACGI	H / TWA H / STEL	:	8-hour, time-we Short-term expo	<b>o</b>
ACGI NIOS	H / C H REL / TWA			average concentration for up to a 10-hour a 40-hour workweek
NIOS	H REL / ST	:	, ,	te TWA exposure that should not be exceeded
OSH/	H REL / C \ Z-1 / TWA \ Z-2 / TWA	:		ot be exceeded at any time. ghted average

AIIC - Australian Inventory of Industrial Chemicals; 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; TECI - Thailand Existing Chemicals 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 Agen- cy, http://echa.europa.eu/
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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



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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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