according to the OSHA Hazard Communication Standard



Krytox[™] VPF 1506

Version 5.2	Revision Date: 11/02/2023		OS Number: 45160-00016	Date of last issue: 04/24/2023 Date of first issue: 06/14/2017			
SECTIC	N 1. IDENTIFICATION						
Pro	duct name	:	Krytox™ VPF 150	06			
SD	SDS-Identcode		13000024126				
Ма	nufacturer or supplier's	deta	ails				
Co	mpany name of supplier	:	The Chemours C	ompany FC, LLC			
Address		:	1007 Market Street Wilmington, DE 19801 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)				
Re	commended use of the c	hen	nical and restriction	ons on use			
Re	commended use	:	Lubricant				
Re	strictions 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, ur 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

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

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

according to the OSHA Hazard Communication Standard



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Components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

If inhaled	:	If inhaled, remove to fresh air. Get medical attention if symptoms occur.
In case of skin contact	:	Wash with water and soap as a precaution. Get medical attention if symptoms occur.
In case of eye contact	:	Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	Inhalation may provoke the following symptoms: Polymer fume fever Skin contact may provoke the following symptoms: Redness Eye contact may provoke the following symptoms Blurred vision Discomfort Lachrymation Inhalation may provoke the following symptoms: Irritation Shortness of breath
Protection of first-aiders	:	No special precautions are necessary for first aid responders.
Notes to physician	:	Treat symptomatically and supportively.

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

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	pecific extinguishing meth- ds	:	cumstances and t Use water spray t	measures that are appropriate to local cir- he surrounding environment. o cool unopened containers. ged containers from fire area if it is safe to do
	pecial protective equipment or fire-fighters	:	necessary.	ed breathing apparatus for firefighting if tective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- tive equipment and emer- gency procedures	:	Follow safe handling advice (see section 7) and personal pro- tective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. 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 contain- ment 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 absor- bent. Local or national regulations may apply to releases and dispo- sal of this material, as well as those materials and items em- ployed in the cleanup of releases. You will need to determine which regulations are applicable. 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 only with adequate ventilation.
Advice on safe handling	:	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.

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		Do not breathe decomposition products.					
Conditions for safe storage			: Keep in properly labeled containers. Store in accordance with the particular national regulations.				
Materials to avoid		: No specia	No special restrictions on storage with other products.				
Further information on stor- age stability		: No decom	No decomposition if stored and applied as directed.				

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
Hydrogen fluoride	7664-39-3	TWA	0.5 ppm (Fluorine)	ACGIH
		С	2 ppm (Fluorine)	ACGIH
		C	6 ppm 5 mg/m³	NIOSH REL
		TWA	3 ppm 2.5 mg/m ³	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 ³	NIOSH REL
		ST	5 ppm 15 mg/m³	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 ³	NIOSH REL
		ST	30,000 ppm 54,000 mg/m ³	NIOSH REL
		TWA	5,000 ppm 9,000 mg/m ³	OSHA Z-1
Carbon monoxide	630-08-0	TWA	25 ppm	ACGIH
		TWA	35 ppm 40 mg/m ³	NIOSH REL
		С	200 ppm 229 mg/m ³	NIOSH REL

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				TWA	50 ppm 55 mg/m³	OSHA Z-1	
Engineering measures		:	Processing may form hazardous compounds (see section 10). Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations.				
Perso	onal protective equip	ment					
Resp	iratory protection	:	: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Whe concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worr Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provide by air purifying respirators against exposure to any hazar-dous chemical is limited. Use a positive pressure air supplier 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.		mits. Where are Id be worn. 0.134) and on provided y hazar- air supplied release, nstance		
Hand	protection						
Re	emarks	:	Wash hands I	pefore breaks a	and at the end of worl	kday.	
Eye p	protection	:	Wear the follo Safety glasse		protective equipment	::	
Skin a	and body protection	:	Skin should b	e washed after	r contact.		
Hygie	ne measures	:	eye flushing s king place. When using d				

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	viscous liquid
Color	:	colorless
Odor	:	odorless
Odor Threshold	:	No data available
рН	:	7
Melting point/freezing point	:	No data available

according to the OSHA Hazard Communication Standard



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	Initial b range	oiling point and boiling	:	No data available	
	Flash point			Method: Pensky- does not flash	Martens closed cup
	Evapor	ation rate	:	No data available	
	Flamm	ability (solid, gas)	:	Not applicable	
	Flamm	ability (liquids)	:	Will not burn	
		explosion limit / Upper bility limit	:	No data available	
		explosion limit / Lower bility limit	:	No data available	
	Vapor p	pressure	:	No data available	
	Relative	e vapor density	:	No data available	
	Relative	e density	:	1.86 - 1.91 (75 °F	7 / 24 °C)
	Solubili Wat	ty(ies) er solubility	:	insoluble	
	Partitio octanol	n coefficient: n- /water	:	No data available	
	Autoigr	ition temperature	:	No data available	
	Decom	position temperature	:	662 °F / 350 °C	
	Viscosi Visc	ty osity, kinematic	:	No data available	
	Explosi	ve properties	:	Not explosive	
	Oxidiziı	ng properties	:	The substance or	mixture is not classified as oxidizing.
	Particle	size	:	Not applicable	

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.

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	Possibility of hazardous reac- tions	te	azardous decor mperatures. one known.	nposition products will be formed at elevated
	Conditions to avoid Incompatible materials		one.	
	Hazardous decomposition p Thermal decomposition	roducts : Hydrogen fluoride Carbonyl difluoride Carbon dioxide Carbon monoxide		
SEC	TION 11. TOXICOLOGICAL I	NFORM	MATION	
	Information on likely routes Inhalation Skin contact Ingestion Eye contact	of exp	osure	
	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.

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-	roductive toxicity classified based on av	ailable information.				
	T-single exposure classified based on av	ailable information.				
	T-repeated exposure classified based on av					
•	i ration toxicity classified based on av	ailable information.				
SECTION	SECTION 12. ECOLOGICAL INFORMATION					
	oxicity ata available					
	istence and degrada ata available	bility				
	ccumulative potentia	al				
	ility in soil ata available					
	er adverse effects ata available					

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods		
Waste from residues	:	Dispose of in accordance with local regulations. Do not dispose of waste into sewer.
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 Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable for product as supplied.

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Domestic regulation

49 CFR Not regulated as a dangerous good

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

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.

SARA 311/312 Hazards	:	No SARA Hazards
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

PFPE fluid

Trade secret

California Prop. 65

WARNING: This product can expose you to chemicals including Pentadecafluorooctanoic acid, which is/are known to the State of California to cause cancer, and Carbon monoxide, 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.

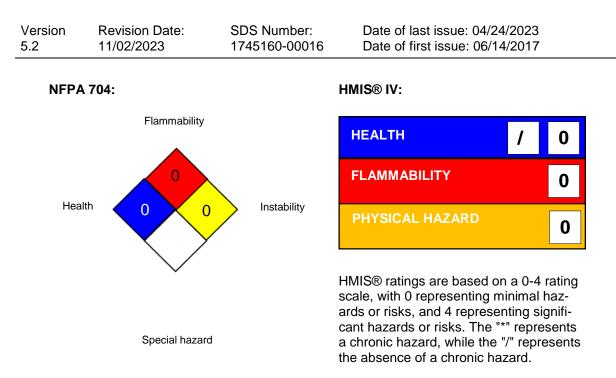
SECTION 16. OTHER INFORMATION

Further information

according to the OSHA Hazard Communication Standard



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

Full text of other abbreviations

ACGIH NIOSH REL OSHA Z-1	:	USA. ACGIH Threshold Limit Values (TLV) USA. NIOSH Recommended Exposure Limits USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim- its 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 OSHA Z-1 / TWA OSHA Z-2 / TWA	: : :	Ceiling value not be exceeded at any time. 8-hour time weighted average 8-hour time weighted 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

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- 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	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-
Data Sheet		cy, http://echa.europa.eu/

Revision Date : 11/02/2023

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.

US / Z8



Ref:	130000024126
Revision date:	12/29/2023
Version	1.0

TRI Supplier Notification for Chemicals of Special Concern

Product name: **Krytox™ VPF 1506**

This letter is to inform you that the product listed above that we sell to you contains the following chemical(s) subject to section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). We are required to notify you of the presence of these chemicals in the product under EPCRA section 313. This law requires certain industrial facilities to report on annual emissions and other waste management of specified EPCRA section 313 chemicals and chemical categories. Chemicals of Special Concern are a subpart listing of chemicals and compounds subject to the Supplier Notification Requirements in 40 C.F.R. 372.45. The chemical(s) listed below may not be intentionally present in the product; however, it is possible that these chemical(s) may be present as an impurity and the exact concentration may vary between batches.

Chemical name	CAS No.	Value	Unit	Test Method
Perfluorobutanoic acid	375-22-4	< 1	PPB	Chemours Extraction SOP*

*Chemours SOP for Extraction of Residuals from Fluoropolymer Matrices. <u>https://www.chemours.com/en/-</u>/media/files/corporate/sop-residual-extractions-from-fluoropolymer-matrices.pdf

The data above is based on the best readily available information as of the date of this letter, which may include representative samples of products. This information is supplemental to safety and regulatory information provided on the SDS. The content of this letter is confidential and intended for the recipient to use for regulatory purposes only.

Please note that if you repackage or otherwise redistribute this product to certain industrial customers as per 40 CFR 372.45(a)(3)(ii), a notice similar to this one should be sent to those customers.

If you have any questions or concerns, please reach out to your account manager.

Disclaimer:

This information is given in good faith and is based on data we believe to be reliable on our current level of knowledge as of the date of this response. The information applies only to the specific material designated herein as sold by Chemours and does not apply to use in any process or in combination with any other material. Since conditions of use and applications of above-mentioned products are outside Chemours' control, Chemours makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Please note that we do not routinely analyze our products for non-intentionally added substances, unless required for regulatory compliance purposes.

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