

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	: Vertrel™ XF specialty fluid
SDS-Identcode	: 130000000559
Substance name	: Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane
Index-No.	: 602-100-00-5
EC-No.	: 420-640-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	: Cleaning agent
Recommended 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.

1.3 Details of the supplier of the safety data sheet

Company	: Chemours Netherlands B.V. Baanhoekweg 22 3313 LA Dordrecht Netherlands
Telephone	: +31-(0)-78-630-1011
Telefax	: +31-78-6163737
E-mail address of person responsible for the SDS	: sds-support@chemours.com

1.4 Emergency telephone number

+(44)-870-8200418 (CHEMTREC - Recommended)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Long-term (chronic) aquatic hazard, Category 3 H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P273 Avoid release to the environment.

Contains fluorinated greenhouse gases. (HFC-43-10 mee)

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects.

Rapid evaporation of the product may cause frostbite.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

Index-No. : 602-100-00-5

EC-No. : 420-640-8

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and	138495-42-8 420-640-8	>= 90 - <= 100

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version 2.2	Revision Date: 13.09.2023	SDS Number: 10423715-00004	Date of last issue: 17.03.2023 Date of first issue: 03.12.2021
----------------	------------------------------	-------------------------------	---

(3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane		
--	--	--

SECTION 4: First aid measures

4.1 Description of first aid measures

Protection of first-aiders	: No special precautions are necessary for first aid responders.
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.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	: May cause cardiac arrhythmia.
----------	---------------------------------

Inhalation may provoke the following symptoms:
Dizziness

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	: Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.
-----------	---

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) Dry chemical
Unsuitable extinguishing media	: None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	: Exposure to combustion products may be a hazard to health.
---------------------------------------	--

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

Hazardous combustion products : Hydrogen fluoride
carbonyl fluoride
Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions

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.
If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked 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.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- 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 assessment
Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Do not expose drums to direct heat or temperature above 46°C (115°F) to avoid pressurizing and possibly distorting the drums. Material should not be dispensed by pouring from pail/drum shipping containers containing 5 gallons or more. The use of a drum pump is recommended for dispensing from pail/drum shipping containers with 5 gallons or more, except for smaller containers where adequate ventilation can be used to manage the exposure. Keep in properly labelled containers. Store in accordance with the particular national regulations.
- Advice on common storage : No special restrictions on storage with other products.
- Recommended storage temperature : < 46 °C
- Further information on storage stability : The product has an indefinite shelf life when stored properly.

7.3 Specific end use(s)

- Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Reaction mass of	138495-42-	TWA	225 ppm	WEEL

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version 2.2 Revision Date: 13.09.2023 SDS Number: 10423715-00004 Date of last issue: 17.03.2023
Date of first issue: 03.12.2021

(3R,4R)- 1,1,1,2,2,3,4,5,5,5- decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5- decafluoropentane	8		2,320 mg/m3	
		STEL	700 ppm 7,217 mg/m3	WEEL

Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
Reaction mass of (3R,4R)- 1,1,1,2,2,3,4,5,5,5- decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5- decafluoropentane	Workers	Inhalation	Long-term systemic effects	2072 mg/m3
	Workers	Inhalation	Acute systemic effects	2072 mg/m3
	Consumers	Inhalation	Long-term systemic effects	1546 mg/m3
	Consumers	Ingestion	Long-term systemic effects	37 mg/kg bw/day
	Consumers	Inhalation	Acute systemic effects	1546 mg/m3

Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
Reaction mass of (3R,4R)- 1,1,1,2,2,3,4,5,5,5- decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5- decafluoropentane	Fresh water	0.0344 mg/l
	Freshwater - intermittent	0.106 mg/l
	Marine water	0.0034 mg/l
	Marine sediment	0.175 mg/kg dry weight (d.w.)
	Fresh water sediment	1.75 mg/kg dry weight (d.w.)
	Soil	0.215 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

Personal protective equipment

- | | | |
|--------------------------|---|---|
| Eye/face protection | : | Wear the following personal protective equipment:
Safety glasses
Equipment should conform to BS EN 166 |
| Hand protection | : | |
| Material | : | Viton® |
| Glove thickness | : | 0.7 mm |
| Wearing time | : | 120 min |
| Remarks | : | Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and 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! |
| Skin and body protection | : | Skin should be washed after contact. |
| Respiratory protection | : | If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Equipment should conform to BS EN 14387 |
| Filter type | : | Organic gas and low boiling vapour type (AX) |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | | |
|---|---|---|
| Appearance | : | liquid |
| Colour | : | colourless |
| Odour | : | slight, ether-like |
| Odour Threshold | : | No data available |
| pH | : | No data available |
| Melting point/freezing point | : | -83.7 °C |
| Initial boiling point and boiling range | : | 53.75 °C (1,013 hPa) |
| Flash point | : | Method: ASTM D 56, Tag closed cup
does not flash |
| Evaporation rate | : | No data available |

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version 2.2	Revision Date: 13.09.2023	SDS Number: 10423715-00004	Date of last issue: 17.03.2023 Date of first issue: 03.12.2021
----------------	------------------------------	-------------------------------	---

Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	Upper flammability limit Method: ASTM E681 None.
Lower explosion limit / Lower flammability limit	:	Lower flammability limit Method: ASTM E681 None.
Vapour pressure	:	313 hPa (25 °C)
Relative vapour density	:	8.7
Density	:	1.58 g/cm ³ (25 °C) 1.60 g/cm ³ (20 °C)
Solubility(ies) Water solubility	:	0.10 - 0.14 g/l (20 °C)
Partition coefficient: n-octanol/water	:	log Pow: 2.7 (24 °C)
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	6.7 mPa.s (25 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Flammability (liquids)	:	No data available
Particle size	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

10.3 Possibility of hazardous reactions

Hazardous reactions : None known.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : None.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 114.428 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

No observed adverse effect concentration (Dog): 5000 ppm
Test atmosphere: gas
Method: Cardiac sensitisation study

Lowest observed adverse effect concentration (Dog): > 5000 ppm
Test atmosphere: gas
Method: Cardiac sensitisation study

Cardiac sensitisation threshold limit (Dog): > 51,544 mg/m3
Test atmosphere: gas
Method: Cardiac sensitisation study

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Not classified based on available information.

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Species	: Rabbit
Method	: OECD Test Guideline 405
Result	: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Test Type	: Buehler Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

Germ cell mutagenicity

Not classified based on available information.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version 2.2	Revision Date: 13.09.2023	SDS Number: 10423715-00004	Date of last issue: 17.03.2023 Date of first issue: 03.12.2021
----------------	------------------------------	-------------------------------	---

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

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
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo
cytogenetic assay)
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity- Assessment : Weight of evidence does not support classification as a germ
cell mutagen.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 415
Result: negative

Effects on foetal development : Test Type: Prenatal development toxicity study (teratogenicity)
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 414
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT - single exposure

Not classified based on available information.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Exposure routes	: Ingestion
Assessment	: No significant health effects observed in animals at concentrations of 2000 mg/kg bw or less

Exposure routes	: Skin contact
Assessment	: No significant health effects observed in animals at concentrations of 2000 mg/kg bw or less

Exposure routes	: inhalation (vapour)
Assessment	: No significant health effects observed in animals at concentrations of 20 mg/l/4h or less

STOT - repeated exposure

Not classified based on available information.

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Exposure routes	: inhalation (vapour)
Assessment	: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Repeated dose toxicity

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Species	: Rat, male and female
NOAEL	: 15.463 mg/l
LOAEL	: 20.618 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 90 Days
Method	: OECD Test Guideline 413

Aspiration toxicity

Not classified based on available information.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

No aspiration toxicity classification

SECTION 12: Ecological information

12.1 Toxicity

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 13 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 10.6 mg/l
aquatic invertebrates Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EC50 (Selenastrum capricornutum (green algae)): > 120 mg/l
plants Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Scenedesmus capricornutum (fresh water algae)): 120 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other : NOEC: 1.72 mg/l
aquatic invertebrates (Chron- Exposure time: 21 d
ic toxicity) Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

12.2 Persistence and degradability

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301D

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

12.3 Bioaccumulative potential

Components:

Reaction mass of (3R,4R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane and (3S,4S)- 1,1,1,2,2,3,4,5,5,5-decafluoropentane

:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 2.4 (24 °C)

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Global warming potential

Regulation (EU) No 517/2014 on fluorinated greenhouse gases

Product:

100-year global warming potential: 1,640

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Do not dispose of waste into sewer.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

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

14.1 UN number

ADN	: Not regulated as a dangerous good
ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good
IATA	: Not regulated as a dangerous good

14.2 UN proper shipping name

ADN	: Not regulated as a dangerous good
ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good
IATA	: Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADN	: Not regulated as a dangerous good
ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good
IATA	: Not regulated as a dangerous good

14.4 Packing group

ADN	: Not regulated as a dangerous good
ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good
IATA (Cargo)	: Not regulated as a dangerous good
IATA (Passenger)	: Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	: Conditions of restriction for the following entries should be considered: Number on list 3
	Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	: Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	: Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	: Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	: Not applicable
GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation	: Not applicable
Control of Major Accident Hazards Regulations 2015 (COMAH)	Not applicable

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Other information : Vertrel™ and any associated logos are trademarks or copyrights of The Chemours Company FC, LLC. Chemours™ and the Chemours Logo are trademarks of The Chemours Company.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

Before use read Chemours safety information.
For further information contact the local Chemours office or
nominated distributors.

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

Full text of other abbreviations

WEEL	:	Workplace Environmental Exposure Levels (WEEL)
WEEL / STEL	:	Short term exposure limit
WEEL / TWA	:	8-hr TWA

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; 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

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
---	---	---

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Vertrel™ XF specialty fluid

Version	Revision Date:	SDS Number:	Date of last issue: 17.03.2023
2.2	13.09.2023	10423715-00004	Date of first issue: 03.12.2021

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.

GB / EN