

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

### SECTION 1. IDENTIFICATION

Product name : Tefzel™ Fluoroplastic Resin HT-2170  
Product code : D11941542  
SDS-Identcode : 130000143905

#### 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 : Resin for moulding and/or extrusion  
Restrictions on use : 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.

---

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with 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 flu-like symptoms in humans, especially when smoking contaminated tobacco.  
Dust contact with the eyes can lead to mechanical irritation.  
Contact with dust can cause mechanical irritation or drying of the skin.

---

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Hazardous ingredients

Chemical name	CAS-No.	Concentration (% w/w)
Carbon black	1333-86-4	>= 10 - < 20

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

### SECTION 4. FIRST AID MEASURES

- |   |   |   |
|---|---|---|
| If inhaled  | : | If inhaled, remove to fresh air.<br>Get medical attention if symptoms occur.  |
| In case of skin contact                                     | : | Wash with water and soap as a precaution.<br>Get medical attention if symptoms occur.                                   |
| In case of eye contact                                      | : | Flush eyes with water as a precaution.<br>Get medical attention if irritation develops and persists.                    |
| If swallowed  | : | If swallowed, DO NOT induce vomiting.<br>Get medical attention if symptoms occur.<br>Rinse mouth thoroughly with water. |
| Most important symptoms and effects, both acute and delayed | : | Polymer fume fever  |
| 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                   | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>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<br>carbonyl fluoride<br>potentially toxic fluorinated compounds<br>aerosolized particulates<br>Carbon oxides  |
| Specific extinguishing methods                 | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for fire-fighters | : | Wear self-contained breathing apparatus for firefighting if necessary.<br>Use personal protective equipment.  |
-

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : 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. 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 : Sweep up or vacuum up spillage and collect in suitable container for disposal. 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.
- 

### 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 dust. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Minimize dust generation and accumulation. Keep container closed when not in use. 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 : Do not store with the following product types: Strong oxidizing agents
- 

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Carbon black	1333-86-4	TWA	3.5 mg/m <sup>3</sup>	NIOSH REL
		TWA	3.5 mg/m <sup>3</sup>	OSHA Z-1

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
 Date of first issue: 05/02/2017

		TWA (Inhalable fraction)	3 mg/m <sup>3</sup>	ACGIH
--	--	--------------------------	---------------------	-------

**These substance(s) are inextricably bound in the product and therefore do not contribute to a dust inhalation hazard.**

Carbon black

### Occupational exposure limits of decomposition products

Ingredients	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
		TWA	5,000 ppm	ACGIH
Carbon dioxide	124-38-9	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
		TWA	25 ppm	ACGIH
Carbon monoxide	630-08-0	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

**Engineering measures** : Processing may form hazardous compounds (see section 10).  
 Ensure adequate ventilation, especially in confined areas.  
 Minimize workplace exposure concentrations.

### Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

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 : Heat resistant gloves

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:  
Safety glasses

Skin and body protection : Skin should be washed after contact.

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.

---

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : pellets, granules  
Color : black  
Odor : odorless  
Odor Threshold : No data available  
pH : No data available  
Melting point/freezing point : 255 - 280 °C  
Initial boiling point and boiling range : No data available  
Flash point : Not applicable  
Evaporation rate : Not applicable

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

- || Flammability (solid, gas) : Not classified as a flammability hazard
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available
- Vapor pressure : Not applicable
- Relative vapor density : Not applicable
- Density : 1.7 g/cm<sup>3</sup>
- Solubility(ies)  
Water solubility : insoluble
- Partition coefficient: n-octanol/water : Not applicable
- || Autoignition temperature : No data available
- Decomposition temperature : No data available
- Viscosity  
Viscosity, kinematic : Not applicable
- Explosive properties : Not explosive
- Oxidizing properties : The substance or mixture is not classified as oxidizing.
- Metal corrosion rate : Not corrosive to metals.
- Particle size : No data available

---

### SECTION 10. STABILITY AND REACTIVITY

- 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

#### Hazardous decomposition products

- Thermal decomposition : Hydrofluoric acid  
Carbonyl difluoride  
Carbon dioxide

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

Carbon monoxide

---

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Not classified based on available information.

#### Ingredients:

##### Carbon black:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Acute inhalation toxicity : LC50 (Rat): > 0.0046 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Acute dermal toxicity : LD50 (Rabbit): > 3,000 mg/kg

#### Skin corrosion/irritation

Not classified based on available information.

#### Ingredients:

##### Carbon black:

Species: Rabbit  
Result: No skin irritation

#### Serious eye damage/eye irritation

Not classified based on available information.

#### Ingredients:

##### Carbon black:

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.

#### Ingredients:

##### Carbon black:

Test Type: Buehler Test

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

Routes of exposure: Skin contact  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: negative

### **Germ cell mutagenicity**

Not classified based on available information.

### **Ingredients:**

#### **Carbon black:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

### **Carcinogenicity**

Not classified based on available information.

**IARC** Group 2B: Possibly carcinogenic to humans

Carbon black 1333-86-4

### **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.

### **Ingredients:**

#### **Carbon black:**

Routes of exposure: inhalation (dust/mist/fume)  
Assessment: No significant health effects observed in animals at concentrations of 0.2 mg/l/6h/d or less.

### **Repeated dose toxicity**

### **Ingredients:**

#### **Carbon black:**

Species: Rat  
NOAEL: 1 mg/kg  
LOAEL: 7 mg/kg  
Application Route: inhalation (dust/mist/fume)  
Exposure time: 90 Days  
Remarks: These substance(s) are inextricably bound in the product and therefore do not



# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

|| contribute to a dust inhalation hazard.

### Aspiration toxicity

Not classified based on available information.

---

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Ingredients:

#### Carbon black:

|| Toxicity to fish : LC0 (Danio rerio (zebra fish)): 1,000 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

|| Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 5,600 mg/l  
aquatic invertebrates : Exposure time: 24 h  
Method: OECD Test Guideline 202

|| Toxicity to algae : NOEC (Desmodesmus subspicatus (green algae)): 10,000 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

#### Persistence and degradability

No data available

#### Bioaccumulative potential

No data available

#### 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

Not regulated as a dangerous good

---

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

---

### 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.

### Domestic regulation

#### 49 CFR

Not regulated as a dangerous good

---

## SECTION 15. REGULATORY INFORMATION

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

#### 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

Poly(Ethylene/3,3,4,4,5,5,6,6,6-Nonafluoro-1-Hexene/Tetrafluoroethylene)	68258-85-5
Carbon black	1333-86-4

#### California Prop. 65

WARNING: This product can expose you to chemicals including Carbon black, which is/are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### California List of Hazardous Substances

Carbon black	1333-86-4
--------------	-----------

#### California Permissible Exposure Limits for Chemical Contaminants

Carbon black	1333-86-4
--------------	-----------

# SAFETY DATA SHEET



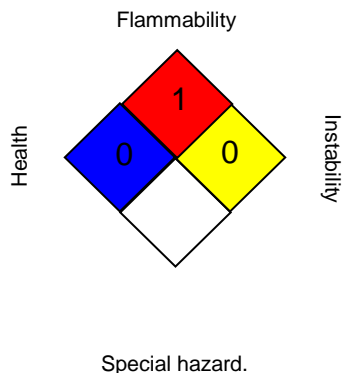
## Tefzel™ Fluoroplastic Resin HT-2170

Version 3.0      Revision Date: 10/20/2017      SDS Number: 1583285-00004      Date of last issue: 06/29/2017  
Date of first issue: 05/02/2017

### SECTION 16. OTHER INFORMATION

#### Further information

##### NFPA:



##### HMIS® IV:

HEALTH	/	0
FLAMMABILITY		1
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.

Tefzel™ 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.

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.

#### 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 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 Sys-

# SAFETY DATA SHEET



## Tefzel™ Fluoroplastic Resin HT-2170

Version	Revision Date:	SDS Number:	Date of last issue: 06/29/2017
3.0	10/20/2017	1583285-00004	Date of first issue: 05/02/2017

---

tem; 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, <http://echa.europa.eu/>

Revision Date : 10/20/2017

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.

US / Z8