



**CF PLUS CHEMICALS**  
*Fluoroalkylation and bioconjugation*

[www.cfplus.cz](http://www.cfplus.cz)

## **MATERIAL SAFETY DATASHEET**

According to regulation (EC) No. 453/2010

Revision Date 27.01.2022

Creation date:1.10.2020

Version:1.0.2

---

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

#### **1.1 Product identifiers**

Product name: Azido-PEG2-perfluoro-t-butyl ether  
Brand: CF Plus Chemicals  
Cat. No.: FAZ016  
CAS No.: 2111135-36-3

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

Identified uses: Laboratory chemicals, Manufacture of substances

#### **1.3 Details of the supplier of the safety data sheet**

Company: CF Plus Chemicals, s.r.o.  
Karásek 1767/1  
621 00 Brno – Řečkovice  
Czech Republic  
Telephone: +420 606 117 375  
E-mail address: [sales@cfplus.cz](mailto:sales@cfplus.cz)

#### **1.4 Emergency telephone number**

Emergency phone: +420 228 880 039 (CHEMTREC)  
+420 224 919 293 / +420 224 915 402  
(Toxicological Information Centre)

---

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008

Self-reactive substances and mixtures;	H241
Organic peroxides (Type B),	
Skin irrit. (Category 2),	H315
Acute toxicity, oral (Category 3),	H301
Serious eye irritation (Category 2),	H319
Specific target organ toxicity, repeated exposure (Category 1),	H372

For the full text of the H-statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No. 1272/2008

Pictogram



Signal word

Danger

Hazard statements

H241

Heating may cause a fire or explosion.

H301

Toxic if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H372

Causes damage to organs through prolonged or repeated exposure

Precautionary statements

P210

Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P260

Do not breathe dust/fume/gas/mist/vapours/spray.

P264

Wash hands thoroughly after handling.

P280

Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352

IF ON SKIN: wash with plenty of soap and water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P370+P378

In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction.

P403+P235

Store in a well-ventilated place. Keep cool.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

No.

---

---

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms:	2-(2-(2-Azidoethoxy)ethoxy)-1,1,1,3,3,3-hexafluoro-2-(trifluoromethyl)propane Azido-PEG2-perfluoro-t-butyl ether
Formula:	C <sub>8</sub> H <sub>8</sub> F <sub>9</sub> N <sub>3</sub> O <sub>2</sub>
Molecular weight:	349.16 g/mol
CAS-No.:	2111135-36-3

For the full text of the H-Statements mentioned in this Section, see Section 16.

---

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available.

---

---

## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Sand, carbon dioxide, dry chemical powder, or appropriate foam.

### **5.2 Special hazards arising from the substance or mixture**

May emit toxic fumes under fire conditions including Carbon monoxide, Carbon dioxide, Nitrogen oxides. Danger of containers bursting upon heating

#### **Advice for firefighters**

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: remove movable containers if safe to do so. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information**

No data available.

---

## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### **6.2 Environmental precautions**

Prevent further leakage or spillage, if safe to do so. Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

---

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

### **7.2 Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature -20 °C. Handle and store under inert gas. Heat, air and moisture sensitive.

### **7.3 Specific end uses**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

---

## **SECTION 8: Exposure controls/personal protections**

### **8.1 Control parameters**

No data available

### **8.2 Exposure control**

#### **Appropriate engineering controls**

Handle with accordance with good industrial hygiene and safety practice. Wash hands before breaks at the end of workday.

#### **Personal protective equipment**

##### **Eye/face protection**

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

##### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

##### **Body protection**

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### **Respiratory protection**

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

---

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance

a) Form	Liquid
b) Colour	yellowish
c) Odour	No data available
d) Odour Threshold	No data available
e) pH	No data available
f) Melting point/Freezing point	No data available
g) Initial boiling point and boiling range	No data available
h) Flash point	No data available
i) Evaporation rate	No data available
j) Flammability (solid, gas)	No data available
k) Upper/lower flammability or explosive limits	No data available
l) Vapour pressure	No data available
m) Vapour density	No data available
n) Relative density	No data available
o) Water solubility	No data available
p) Partition coefficient: n-octanol/water	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Viscosity	No data available
t) Explosive properties	Non explosive
u) Oxidizing properties	No data available

#### Other safety information

Surface tension	No data available
Relative vapour density	No data available

---

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reactive towards reducing agents, low valent transition metal compounds, metals, bases, thiols and other good nucleophiles.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Avoid contact with strong oxidizing agent, strong reductants, metals, acids and bases.

### 10.4 Conditions to avoid

Avoid contact with heat, flame and sparks.

### 10.5 Incompatible materials

Reductants, acids and bases, metals, low valent transition metal compounds.

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions – carbon oxides, nitrogen oxides, hydrogen fluoride.

In the event of fire: see section 5.

---

---

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity	No data available.
Skin corrosion/irritation	No data available.
Serious eye damage/eye irritation	No data available.
Respiratory or skin sensitisation	No data available.
Germ cell mutagenetic	No data available.
Carcinogenicity	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity	No data available.
Specific target organ toxicity – single exposure	Inhalation – may cause respiratory irritation.
Specific target organ toxicity – repeated exposure	No data available.
Aspiration hazard	No data available.
Potential health effects-Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Potential health effects-Ingestion	May be harmful if swallowed.
Potential health effects-Skin	May be harmful if absorbed through skin.
Potential health effects-Eyes	Causes serious eye irritation.
Additional Information	RTECS: No data available.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.	

---

## SECTION 12: Ecological information

12.1 Toxicity	No data available.
12.2 Persistence and degradability	No data available.
12.3 Bioaccumulative potential	No data available.
12.4 Mobility in soil	No data available.
12.5 Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.
12.6 Other adverse effects	No data available.

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product.

---

---

## **SECTION 14: Transport information**

### **14.1 UN Number**

ADR/RID: -    IMDG: -    IATA: -

### **14.2 UN proper shipping name**

ADR/RID:    Not dangerous goods  
IMDG:    Not dangerous goods  
IATA:    Not dangerous goods

### **14.3 Transport hazard class(es)**

ADR/RID: -    IMDG: -    IATA: -

### **14.4 Packaging group**

ADR/RID: -    IMDG: -    IATA: -

### **14.5 Environmental hazards**

ADR/RID: no    IMDG: Marine pollutant: no    IATA: no

### **14.6 Special precautions for user**

No data available.

---

## **SECTION 15: Regulatory information**

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

Regulation (EC) No. 1907/2006 (REACH)  
Regulation (EC) No. 1907/2008 (CLP)  
Regulation (EC) No. 453/2010  
Regulation (EU) No. 830/2015

### **15.2 Chemical safety assessment**

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection.

---



---

## SECTION 16: Other information

### a) Changes in the revision

### b) List of abbreviations

CAS	Chemical Abstracts Service
MSDS	Material Safety Data Sheet
IARC	International Agency for Research on Cancer
RTECS	Registry of Toxic Effects of Chemical Substances
PBT/vPvB	(persistent, bioaccumulative and toxic) (very persistent and very bioaccumulative)
ADR/RID	European Agreements Concerning the International Carriage of Dangerous Goods by Rail (RID) and Road (ADR)
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
STOT – SE	Specific target organ toxicity – single exposure

### e) Full text of H and P Statements referred to under sections 2 and 3.

H241	Heating may cause a fire or explosion.
H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H372	Causes damage to organs through prolonged or repeated exposure
P210	Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352	IF ON SKIN: wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378	In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

---

## **FUTHER INFORMATION**

Copyright 2019 CF Plus Chemicals. The users of this product are entitled to print unlimited number of copies of this material safety data sheet. It is believed that the above-mentioned information is correct and represents the best information for us. It does however not mean that the above-mentioned information is complete and therefore it should be used as a general guide. CF Plus Chemicals s.r.o. will not be held liable for any damage resulting from the use, handling or contact with the product according to the General terms and sale conditions of the company CF Plus Chemicals s.r.o. (<http://www.cfplus.cz/terms>). This product is intended solely for research and development purposes.