



**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: 23.09.2020

Creation date: 23.09.2019

Version:1.0.1

---

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

#### **1.1 Product identifiers**

|               |   |
|---------------|---|
| Product name: | 1-TRIFLUOROMETHYL-1,2-BENZIODOXOL-3-(1 <i>H</i> )-ONE |
| Brand:        | CF Plus Chemicals                                     |
| Cat. No.:     | HYP001  |
| CAS No.:      | 887144-94-7   |

#### **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.<br>Karásek 1767/1<br>621 00 Brno – Řečkovice<br>Czech Republic |
| Telephone:      | +420 606 117 375   |
| E-mail address: | <a href="mailto:sales@cfplus.cz">sales@cfplus.cz</a>                                     |

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

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

---

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

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

|  |      |
|--|------|
| Skin irrit. (Category 2),                                | H315 |
| Serious eye irritation (Category 2),                     | H319 |
| STOT – SE, Respiratory tract irritation<br>(Category 3), | H335 |

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

Warning

Hazard statements

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

Precautionary statements

P261

Avoid breathing

dust/fume/gas/mist/vapours/spray.

P305 + P351 + P338

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

### 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.

---

## SECTION 3: Composition/information on ingredients

---

### 3.1 Substances

Does not apply

### 3.2 Mixtures

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

| Component  | Classification  | Concentration |
|--|---|---------------|
| <b>Acid-CF<sub>3</sub> Togni Reagent</b>                 |   |               |
| CAS-No.: 887144-94-7                                     | Skin Irrit. 2; Eye Irrit 2;<br>STOT SE 3; H315, H319,<br>H335 | ≤ 50 %        |
| <b>Diatomaceous earth (flegmatization solid diluent)</b> |   |               |
| CAS-No.: 68855-54-9                                      |   | ≤ 50 %        |

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**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides, hydrogen fluoride, hydrogen iodide, iodine.

### **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   | Solid powder              |
| b) Colour                                       | Off -white                |
| c) Odour  | No data available         |
| d) Odour Threshold                              | No data available         |
| e) pH   | No data available         |
| f) Melting point/Freezing point                 | Melting point: 150-158 °C |
| 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                         | No data available         |
| 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 water, reductants, metals, acids and bases. Possibility of decomposition. Avoid contact with flame, heat and sparks.

**10.4 Conditions to avoid**

Avoid contact with water, reductants, metals, acids and bases. Possibility of decomposition. Avoid contact with flame, heat and sparks.

**10.5 Incompatible materials**

Strong oxidizing agents, reductants, acids and bases, metals, low valent transition metal compounds.

**10.6 Hazardous decomposition products**

Hydrogen iodide, iodine, hydrogen fluoride, carbon oxides.

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.

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 | 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 Other adverse effects              | No data available.   |

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Arrange disposal as special waste, by licensed disposal company, in a consultation with local waste disposal authority, in accordance with national and regional regulations.

#### 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)<br>(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.**

|                    |   |
|--------------------|---|
| H315               | Causes skin irritation.   |
| H319               | Causes serious eye irritation.  |
| H335               | May cause respiratory irritation.   |
| P261               | Avoid breathing<br>dust/fume/gas/mist/vapours/spray.  |
| P280               | Wear protective gloves/protective<br>clothing/eye protection/face protection  |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water<br>for several minutes. Remove contact<br>lenses, if present and easy to do. Continue<br>rinsing. |

---

**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.