

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

#### 1.1. Product identifier

Product form : Substance  
 Name : FK-5-1-12  
 EC-No. : 436-710-6  
 CAS-No. : 756-13-8  
 REACH registration No : 01-2120426966-44  
 Product code : 101335200

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Extinguishing agents

##### 1.2.2. Uses advised against

No additional information available

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

##### Supplier

Dehon Service SAS  
 26 Avenue du Petit Parc  
 94683 VINCENNES Cedex - France  
 T 01 43 98 75 00 - F 01 43 98 21 51  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

##### Other

Climalife Kft Budepesta sucursală Bucuresti Romania  
 Bulevardul Hristo Botev, Nr. 28,  
 Biroul NR 4, Modulul I  
 Bucuresti Sectorul 3 - Romania  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

##### Other

Dehon Kälte-Fachvertriebs GmbH  
 Robert-Bosch-Strasse 14  
 40668 MEERBUSCH - Germany  
 T 00 49 2150 7073 0 - F 00 49 2150 7073 17  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

##### Other

Dehon Service Belgium s.a/n.v.  
 Avenue Carton de Wiart, 79  
 1090 Bruxelles - Belgium  
 T 00 32 2 421 01 70 - F 00 32 2 426 96 62  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

##### Other

Friogas sa  
 Poligono Industrial SEPES  
 Parcela 10  
 46500 SAGUNTO (Valencia) - Spain  
 T 00 34 9 6 266 36 32 - F 00 34 9 6 266 50 25  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

##### Other

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 22 Apex Court, Woodlands, Bradley Stoke  
 BS32 4JT Bristol - United Kingdom  
 T 00 44 1179 802520 - F 00 44 1179 802521  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

##### Other

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 Villányi út 47  
 1118 Budaörs - Hungary  
 T (36) 23 431 660 - F (36) 23 431 661  
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##### Other

Climalife Supplied by Inventec Performance Chemicals Italia SRL  
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 20874 Busnago MB - Italia  
 T +39 39-5973480 - F +39 39-5973490  
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##### Other

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 41109 GÖTEBORG - Sweden  
 T 00 46 44 21 58 80 - F 00 46 44 21 58 80  
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##### Other

Dehon Service Nerderland B.V.  
 Van Konijnenburgweg 84  
 NL-4612 PL Bergen Op Zoom - Netherlands  
 T 00 31 164 212 830 - F 00 31 164 212 831  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

##### Other

Galco s.a/n.v.  
 Avenue Carton de Wiart, 79  
 1090 BRUSSELS - Belgium  
 T 00 32 2 421 01 84 - F 00 32 2 421 01 84 / 00 32 2 425 38 12  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

##### Other

Prochimac SA  
 ZI Petits Champs 15  
 CH-1400 Yverdon-les-Bains - Switzerland  
 T 00 41 32 727 36 00 - F 00 41 32 727 36 19  
[ContactFDS@climalife.dehon.com](mailto:ContactFDS@climalife.dehon.com)

# FK-5-1-12

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 1.4. Emergency telephone number

Emergency number : +33 (0) 1 72 11 00 03

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

#### Adverse physicochemical, human health and environmental effects

No additional information available

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Signal word (CLP) : -  
Hazard statements (CLP) : H412 - Harmful to aquatic life with long lasting effects.  
Precautionary statements (CLP) : P273 - Avoid release to the environment.  
P501 - Dispose of contents and container to hazardous or special waste collection point in accordance with national regulation..

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : FK-5-1-12  
CAS-No. : 756-13-8  
EC-No. : 436-710-6

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
1,1,1,2,2,4,5,5,5- Nonafluoro-4-(Trifluoromethyl)-3-Pentanone	CAS-No.: 756-13-8 EC-No.: 436-710-6 REACH-no: 01-2120426966-44	≥ 99	Aquatic Chronic 3, H412

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
- First-aid measures after skin contact : Wash with soapy water.
- First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- First-aid measures after ingestion : Rinse mouth. If you feel unwell, seek medical advice.

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

No additional information available

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

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Dry powder. Carbon dioxide.
- Unsuitable extinguishing media : None to our knowledge. If there is a fire close by, use suitable extinguishing agents.

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

- Hazardous decomposition products in case of fire : Toxic and corrosive vapours may be released.

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

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

- General measures : Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid. Notify authorities if product enters sewers or public waters. Clean up any spills as soon as possible, using an absorbent material to collect it. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

##### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.

#### 6.2. Environmental precautions

Dike and contain spill. Prevent entry to sewers and public waters. Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Dispose of contaminated material at an authorized site.

#### 6.4. Reference to other sections

For disposal of solid materials or residues refer to section 13 : "Disposal considerations". For further information refer to section 8: "Exposure controls/personal protection".

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## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Handle and open container with care. Work in a well-ventilated area. Do not breathe vapours. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work.

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

- Technical measures : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Install a retention tank.
- Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Keep away from naked flames/heat.
- Incompatible products : Strong bases. Amines. alcohols.
- Storage temperature :  $\leq 38^{\circ}\text{C}$

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1. National occupational exposure and biological limit values

No additional information available

##### 8.1.2. Recommended monitoring procedures

No additional information available

##### 8.1.3. Air contaminants formed

No additional information available

##### 8.1.4. DNEL and PNEC

No additional information available

##### 8.1.5. Control banding

No additional information available

#### 8.2. Exposure controls

##### 8.2.1. Appropriate engineering controls

No additional information available

##### 8.2.2. Personal protection equipment

###### 8.2.2.1. Eye and face protection

###### Eye protection:

Safety glasses

###### 8.2.2.2. Skin protection

###### Skin and body protection:

Majority cotton protective clothing

###### Hand protection:

Wear suitable gloves resistant to chemical penetration

###### 8.2.2.3. Respiratory protection

###### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: slight.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 108 °C
Freezing point	: No data available
Boiling point	: 49 °C
Flash point	: None
Critical temperature	: 168.7 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.326 bar (20°C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.6 g/cm <sup>3</sup> (20°C)
Solubility	: Poorly soluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: 0.269 mm <sup>2</sup> /s
Viscosity, dynamic	: 0.43 mPa·s (25°C)
Explosive properties	: Not explosive material according to EC criteria.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Heat. Direct sunlight.

### 10.5. Incompatible materials

Strong bases. Amines. alcohols.

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### 10.6. Hazardous decomposition products

On combustion or on thermal decomposition (pyrolysis) releases : Carbon oxides (CO, CO<sub>2</sub>), Hydrogen fluoride.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### 1,1,1,2,2,4,5,5,5- Nonafluoro-4-(Trifluoromethyl)-3-Pentanone (756-13-8)

LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 µl/kg
LC50 Inhalation - Rat (Vapours)	> 98663 mg/l/4h

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
STOT-single exposure : Not classified  
STOT-repeated exposure : Not classified  
Aspiration hazard : Not classified

#### FK-5-1-12 (756-13-8)

Viscosity, kinematic	0.269 mm <sup>2</sup> /s
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## SECTION 12: Ecological information

### 12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

#### 1,1,1,2,2,4,5,5,5- Nonafluoro-4-(Trifluoromethyl)-3-Pentanone (756-13-8)

LC50 - Fish [1]	> 1070 mg/l 96 Hours (Pimephales promelas)
EC50 - Crustacea [1]	> 1080 mg/l 48 Hours (Daphnia magna)
EC50 72h - Algae [1]	10.6 mg/l 96 Hours (Pimephales promelas)

### 12.2. Persistence and degradability

#### FK-5-1-12 (756-13-8)

Persistence and degradability	May cause long-term adverse effects in the environment.
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### 12.3. Bioaccumulative potential

#### FK-5-1-12 (756-13-8)

Bioaccumulative potential	Not established.
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### 12.4. Mobility in soil

No additional information available

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### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

- Product/Packaging disposal recommendations : Recycle or dispose of in compliance with current legislation. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a hazardous or special waste collection point. Empty the packaging completely prior to disposal.
- Additional information : Refer to manufacturer or supplier for information on recovery or recycling. The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.
- Ecology - waste materials : Do not discharge into drains or the environment.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
<b>14.1. UN number</b>		
Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>		
Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Not applicable	Not applicable	Not applicable
No supplementary information available		

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

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

Not applicable

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## Safety Data Sheet

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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

FK-5-1-12 is not on the REACH Candidate List

FK-5-1-12 is not on the REACH Annex XIV List

FK-5-1-12 is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

FK-5-1-12 is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

##### 15.1.2. National regulations

No additional information available

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

#### Indication of changes

Section	Changed item	Change	Comments
1.1	Use of the substance/mixture	Modified	

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

#### Full text of H- and EUH-statements

Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
H412	Harmful to aquatic life with long lasting effects.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.