

CF-I 750, CF-I 750/G

Safety Data Sheet

According to SS 586 Part 3: 2014

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Revision date:

Supersedes:

Version: 1.0

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

1.1. Product identifier

Product form	Mixture
Trade name	CF-I 750, CF-I 750/G
Product code	BU Fire Protection Foam

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

Supplier

Hilti Far East Private Ltd.
No 20 Harbour Drive,
#06-06/08 PSA Vista
117612 Singapore - Singapur
T +65 6777 7887 - F +65 6777 3057
sg-customerservice@hilti.com

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.5. Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +65 6777 7887
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Physical hazards	Aerosol, Category 1
Health hazards	Acute toxicity (inhalation:dust,mist) Not classified Skin corrosion/irritation, Category 2 Serious eye damage/eye irritation, Category 2 Respiratory sensitisation, Category 1 Skin sensitisation, Category 1 Carcinogenicity, Category 2 Reproductive toxicity, Additional category, Effects on or via lactation Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation Specific target organ toxicity — Repeated exposure, Category 2
Environmental hazards	Hazardous to the aquatic environment - Chronic Hazard Not classified

2.2. Label elements

Hazard pictograms (GHS SG)



Signal word (GHS SG)

Danger

Hazard statements (GHS SG)

Extremely flammable aerosol. (H222)
Pressurised container: May burst if heated. (H229)
Causes skin irritation. (H315)
May cause an allergic skin reaction. (H317)
Causes serious eye irritation. (H319)
May cause allergy or asthma symptoms or breathing difficulties if inhaled. (H334)
May cause respiratory irritation. (H335)
Suspected of causing cancer. (H351)
May cause harm to breast-fed children. (H362)

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May cause damage to organs through prolonged or repeated exposure. (H373)

Precautionary statements

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)

Do not spray on an open flame or other ignition source. (P211)

Do not pierce or burn, even after use. (P251)

Do not breathe spray. (P260)

Wear eye protection, protective clothing, protective gloves. (P280)

Storage

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. (P410+P412)

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Concentration (%)	Formula	Product identifier
4,4'-diphenylmethanediisocyanate, isomeres and homologues	20 – 30	C ₁₅ H ₁₀ N ₂ O ₂ -(C ₈ H ₅ NO) _x	(CAS-No.) 9016-87-9
Reaction products of phosphoryl trichloride and 2-methyloxirane (TCPP)	5 – 10		(CAS-No.) 1244733-77-4 (EC-No.) 807-935-0
Alkanes, C14-17, chloro (MCCP, Medium chained chlorinated paraffins)	5 – 10	C _x H _(2x-y+2) Cl _y	(CAS-No.) 85535-85-9 (EC-No.) 287-477-0 (EC Index-No.) 602-095-00-X

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Get immediate medical advice/attention.

Skin contact

Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

Call a poison center or a doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting.

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

Symptoms/effects after inhalation	May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Symptoms/effects after skin contact	Irritation. May cause an allergic skin reaction. Causes skin irritation.
Symptoms/effects after eye contact	Eye irritation. Causes serious eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide. Sand.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	Extremely flammable aerosol.
Explosion hazard	Pressurised container: May burst if heated.
Hazardous decomposition products in case of fire	Toxic fumes may be released. Vapours may form explosive mixture with air.

5.3. Special Protective actions for the fire fighters

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. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures	Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe spray. Avoid contact with skin and eyes. Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Mechanically recover the product. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
Other information	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13. See Section 8. Exposure controls and personal protection.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact during pregnancy/while nursing. Do not breathe spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. May form flammable/explosive vapour-air mixture. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing spray.

Hygiene measures

Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash hands, forearms and face thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Store in a well-ventilated place. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Keep cool. Keep only in the original container in a cool, well ventilated place away from : Keep container tightly closed.

Incompatible products

Strong bases. Strong acids.

Incompatible materials

Sources of ignition. Direct sunlight.

Storage temperature

5 – 25 °C

Heat and ignition sources

Keep away from heat and direct sunlight. Keep away from ignition sources.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

Appropriate engineering controls

Ensure good ventilation of the work station.

8.4. Personal protective equipment

Hand protection

Protective gloves. Wear protective gloves.

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	3 (> 60 minutes)			EN ISO 374

Eye protection

Chemical goggles or safety glasses

Type	Field of application	Characteristics	Standard
Safety glasses			EN 166, EN 171

Skin and body protection

Wear suitable protective clothing

Respiratory protection

Not necessary with sufficient ventilation. In case of inadequate ventilation wear respiratory protection.

Device	Filter type	Condition	Standard
Aerosol mask	Type A - High-boiling (>65 °C) organic compounds		

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Personal protective equipment symbol(s)



Environmental exposure controls

Avoid release to the environment.

Consumer exposure controls

Avoid contact during pregnancy/while nursing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aerosol.
Colour	brown
Odour	ether-like odour
Odour threshold	No data available
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	-42 °C
Flash point	-104 °C
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Extremely flammable aerosol.
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1 g/cm ³
Solubility	Insoluble.
Partition coefficient n-octanol/water (Log Pow)	No data available
Partition coefficient n-octanol/water (Log Kow)	No data available
Viscosity, dynamic	No data available
Explosive properties	Pressurised container: May burst if heated.
Oxidising properties	No data available
Explosive limits	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable aerosol. Pressurised container: May burst if heated.

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

Heating may cause a fire or explosion. Not established.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition. Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

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10.6. Hazardous decomposition products

No additional information available. fume. Carbon monoxide. Carbon dioxide.

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.

Alkanes, C14-17, chloro (MCCP, Medium chained chlorinated paraffins) (85535-85-9)	
LD50 oral rat	> 4000 mg/kg bodyweight (Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 13500 mg/kg bodyweight (24 h, Rabbit, Read-across, Dermal)
LC50 Inhalation - Rat	> 48.17 mg/l air (1 h, Rat, Read-across, Inhalation (vapours))

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LD50 oral rat	> 10000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Literature study, Dermal)

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Suspected of causing cancer.
Reproductive toxicity	May cause harm to breast-fed children.
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified

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Vaporizer	Aerosol
Density	1 g/cm ³

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)	Not classified.

Alkanes, C14-17, chloro (MCCP, Medium chained chlorinated paraffins) (85535-85-9)	
LC50 - Fish [1]	> 5000 mg/l (Equivalent or similar to OECD 203, 96 h, Alburnus alburnus, Static system, Brackish water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	0.006 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	> 3.2 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

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Alkanes, C14-17, chloro (MCCP, Medium chained chlorinated paraffins) (85535-85-9)	
BCF - Fish [1]	6660 – 9140 l/kg (OECD 305: Bioconcentration: Flow-Through Fish Test, 35 day(s), Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	4.7 – 8.3 (Experimental value, Equivalent or similar to OECD 117)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	5 – 5.2 (log Koc, Experimental value)

Reaction products of phosphoryl trichloride and 2-methyloxirane (TCP) (1244733-77-4)	

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LC50 - Other aquatic organisms [1]	> 1000 mg/l (96 h, Literature study)
BCF - Fish [1]	1 (Pisces, Literature study)
Partition coefficient n-octanol/water (Log Pow)	10.46 (Calculated, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

12.2. Persistence and degradability

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Persistence and degradability	No additional information available

Alkanes, C14-17, chloro (MCCP, Medium chained chlorinated paraffins) (85535-85-9)	
Persistence and degradability	Not readily biodegradable in the soil. Not readily biodegradable in water.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

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Bioaccumulative potential	No additional information available

Alkanes, C14-17, chloro (MCCP, Medium chained chlorinated paraffins) (85535-85-9)	
BCF - Fish [1]	6660 – 9140 l/kg (OECD 305: Bioconcentration: Flow-Through Fish Test, 35 day(s), Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	4.7 – 8.3 (Experimental value, Equivalent or similar to OECD 117)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	5 – 5.2 (log Koc, Experimental value)
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
BCF - Fish [1]	1 (Pisces, Literature study)
Partition coefficient n-octanol/water (Log Pow)	10.46 (Calculated, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

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Mobility in soil	No additional information available

Alkanes, C14-17, chloro (MCCP, Medium chained chlorinated paraffins) (85535-85-9)	
Partition coefficient n-octanol/water (Log Pow)	4.7 – 8.3 (Experimental value, Equivalent or similar to OECD 117)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	5 – 5.2 (log Koc, Experimental value)
Ecology - soil	Low potential for mobility in soil.

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4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Partition coefficient n-octanol/water (Log Pow)	10.46 (Calculated, KOWWIN)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Adsorbs into the soil.

12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available

SECTION 13: Disposal considerations

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	After curing, the product can be disposed of with household waste. . Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1950	UN 1950	UN 1950	UN 1950	UN 1950
14.2. UN proper shipping name				
AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS	AEROSOLS
Transport document description				
UN 1950 AEROSOLS, 2.1, (D)	UN 1950 AEROSOLS, 2.1	UN 1950 Aerosols, flammable, 2.1	UN 1950 AEROSOLS, 2.1	UN 1950 AEROSOLS, 2.1
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	5F
Special provisions (ADR)	190, 327, 344, 625
Limited quantities (ADR)	1I
Packing instructions (ADR)	P207, LP02
Mixed packing provisions (ADR)	MP9
Transport category (ADR)	2

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Tunnel restriction code (ADR) D

Transport by sea

Special provisions (IMDG) 63, 190, 277, 327, 344, 959
 Limited quantities (IMDG) SP277
 Packing instructions (IMDG) P207, LP02
 EmS-No. (Fire) F-D
 EmS-No. (Spillage) S-U
 Stowage category (IMDG) None
 MFAG-No 126

Air transport

PCA packing instructions (IATA) 203
 PCA max net quantity (IATA) 75kg
 CAO packing instructions (IATA) 203
 Special provisions (IATA) A145, A167, A802

Inland waterway transport

Classification code (ADN) 5F
 Special provisions (ADN) 19, 327, 344, 625
 Limited quantities (ADN) 1 L
 Excepted quantities (ADN) E0
 Equipment required (ADN) PP, EX, A
 Ventilation (ADN) VE01, VE04
 Number of blue cones/lights (ADN) 1

Rail transport

Special provisions (RID) 190, 327, 344, 625
 Limited quantities (RID) 1L
 Packing instructions (RID) P207, LP02

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

Regulation		Component/Mixture
Fire Safety Act/Fire Safety (Petroleum and Flammable Materials) Regulations	Petroleum and Flammable Materials	CF-I 750 (w/)
Maritime and Port Authority of Singapore (Dangerous, Petroleum and Explosives) Regulations	Maritime and Port Authority-Dangerous Goods	CF-I 750 (w/)

15.2. International Regulations

No additional information available

15.3 Chemical inventory status

Australia AICS No
 Canada DSL No
 Canada NDSL No
 China IECSC No
 EU EINECS No
 EU ELINCS No

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EU NLP	No
Korea ECL	No
US TSCA	No

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
			new foam clustert

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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.