

Safety Data Sheet

according to the United Nations GHS (Rev. 4, 2011)

Issue date: 30/11/2021 Revision date: : Version: 1.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form Mixture

Trade name CF-I 50 ECO GV/ CF-F 750/ CF-F 750-GV

UN-No. (ADR) 1950

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

Use of the substance/mixture PU installation foams

1.4. Supplier's details

Supplier Department issuing data specification sheet

Hilti (Hong Kong) Ltd. Hilti AG

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223 Wai Yip Street, Kwun Tong 9494 Schaan - Liechtenstein

Kowloon - Hong Kong T +423 234 2111

T +852 27734 700

1.5. Emergency phone number

Emergency number Schweizerisches Toxikologisches Informationszentrum – 24h Service

+41 44 251 51 51 (international)

+852 27734 700

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Aerosol, Category 1	H222;H229	On basis of test data
Skin corrosion/irritation, Category 2	H315	Calculation method
Serious eye damage/eye irritation, Category 2	H319	Calculation method
Respiratory sensitisation, Category 1	H334	Calculation method
Skin sensitisation, Category 1	H317	Calculation method
Carcinogenicity, Category 2	H351	Calculation method
Reproductive toxicity, Additional category, Effects on or via lactation	H362	Calculation method
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335	Calculation method
Specific target organ toxicity — Repeated exposure, Category 2	H373	Calculation method

H413

Hazard, Category 4
Full text of H-statements: see section 16

Hazardous to the aquatic environment — Chronic

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Expert judgment



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2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)







GHS02

GHS08

Signal word (GHS UN)

Hazardous ingredients

Hazard statements (GHS UN)

Danger

4,4'-diphenylmethanediisocyanate, isomeres and homologues, Alkanes, C14-17, chloro

(MCCP, Medium chained chlorinated paraffins)

H222 - Extremely flammable aerosol

H229 - Pressurised container: May burst if heated

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335 - May cause respiratory irritation H351 - Suspected of causing cancer

H362 - May cause harm to breast-fed children

H373 - May cause damage to organs through prolonged or repeated exposure

H413 - May cause long lasting harmful effects to aquatic life

Precautionary statements (GHS UN) P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

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

P251 - Do not pierce or burn, even after use.

P260 - Do not breathe spray.

P280 - Wear eye protection, protective clothing, protective gloves.

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

Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

Substances

Not applicable

3.2. **Mixtures**

Name	Product identifier	%	Classification according to the United Nations GHS
4,4'-diphenylmethanediisocyanate, isomeres and homologues	(CAS-No.) 9016-87-9	10 – 30	Flammable liquids Not classified Acute toxicity (oral) Not classified Acute toxicity (dermal) Not classified Acute toxicity (inhal.), Category 4, H332 Skin corrosion/irritation, Category 2, H315 Serious eye damage/eye irritation, Category 2A, H319 Respiratory sensitisation, Category 1, H334 Skin sensitisation, Category 1, H317 Carcinogenicity, Category 2, H351 Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation, H335 Specific target organ toxicity — Repeated exposure, Category 2, H373
tris(2-chloro-1-methylethyl) phosphate	(CAS-No.) 13674-84-5	5 – 10	Flammable liquids Not classified Acute toxicity (oral), Category 4, H302

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			Hazardous to the aquatic environment — Acute Hazard, Category 3, H402
Alkanes, C14-17, chloro (MCCP, Medium chained chlorinated paraffins)	(CAS-No.) 85535-85-9	5 – 10	Flammable liquids Not classified Acute toxicity (dermal) Not classified Reproductive toxicity, Additional category, Effects on or via lactation, H362 Hazardous to the aquatic environment — Acute Hazard, Category 1, H400 Hazardous to the aquatic environment — Chronic Hazard, Category 1, H410

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures after 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.

First-aid measures after skin contact Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash

occurs: Get medical advice/attention.

First-aid measures after 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.

First-aid measures after ingestion Call a poison center or a doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting.

4.2. Most important symptoms/effects, 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 immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable 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. Specific hazards arising from the chemical

Fire hazard Extremely flammable aerosol.

Explosion hazard Pressurised container: May burst if heated.

Hazardous decomposition products in case of Toxic fumes may be released. Vapo

fire

Toxic fumes may be released. Vapours may form explosive mixture with air.

5.3. Special protective actions for 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.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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.

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.

protoction.

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 materials 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.

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.

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

Storage temperature 5 – 25 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls Ensure good ventilation of the work station.

Environmental exposure controls Avoid release to the environment.

Consumer exposure controls Avoid contact during pregnancy/while nursing.

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Other information

Do not eat, drink or smoke during use.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection Protective gloves. Wear protective gloves.

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

Eye protection Chemical goggles or safety glasses

Туре	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		

Personal protective equipment symbol(s)







8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state Liquid
Appearance Aerosol
Colour light brown.

Odour slight, ether-like odour.

Odour threshold Not available
Melting point Not available
Freezing point Not available
Boiling point -42 °C

Flammability (solid, gas) Extremely flammable aerosol.

Not available Explosive limits Lower explosive limit (LEL) 0.4 vol % Upper explosive limit (UEL) 32 vol % Flash point -104 °C Auto-ignition temperature Not available Decomposition temperature Not available Not available pΗ pH solution Not available Viscosity, kinematic (calculated value) (40 °C) Not available Partition coefficient n-octanol/water (Log Kow) Not available

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Vapour pressure	Not available
Vapour pressure at 50 °C	Not available
Density	1 g/cm³
Relative density	Not available
Relative vapour density at 20 °C	Not available
Solubility	Not available
Particle size	Not applicable
Particle size distribution	Not applicable
Particle shape	Not applicable
Particle aspect ratio	Not applicable
Particle specific surface area	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

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.

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)

Acute toxicity (dermal)

Acute toxicity (inhalation)

Not classified

Not classified

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)	
Alkanes, C14-17, chloro (MCCP, Medium chai	ined 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))	
tris(2-chloro-1-methylethyl) phosphate (13674	4-84-5)	
LD50 oral rat	1101 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental	
	value, Oral)	
LD50 oral	1150 – 1750	

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> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
> 5 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Not classified
Suspected of causing cancer.
May cause harm to breast-fed children.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
Not classified

CF-I 50 ECO GV/ CF-F 750/ CF-F 750-GV

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-

term (acute)

Vaporizer

Hazardous to the aquatic environment, long-term

(chronic)

Classification procedure (Hazardous to the aquatic environment, long-term (chronic))

Not classified

Aerosol

May cause long lasting harmful effects to aquatic life.

Expert judgment

4,4'-diphenylmethanediisocyanate, isomere:	s and homologues (9016-87-9)
LC50 - Other aquatic organisms [1]	> 1000 mg/l (96 h, Literature study)
Alkanes, C14-17, chloro (MCCP, Medium cl	nained 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)
tris(2-chloro-1-methylethyl) phosphate (136)	74-84-5)
LC50 - Fish [1]	51 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	131 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	82 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

CF-I 50 ECO GV/ CF-F 750/ CF-F 750-GV	
Persistence and degradability	No additional information available
4,4'-diphenylmethanediisocyanate, isomeres	and homologues (9016-87-9)
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
Alkanes, C14-17, chloro (MCCP, Medium cha	ained chlorinated paraffins) (85535-85-9)
Persistence and degradability	Not readily biodegradable in the soil. Not readily biodegradable in water.

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tris(2-chloro-1-methylethyl) phosphate (13674-84	-5)
Persistence and degradability	Not readily biodegradable in water.

12.3. Bioaccumulative potential

CF-I 50 ECO GV/ CF-F 750/ CF-F 750-GV		
Bioaccumulative potential	No additional information available	
4,4'-diphenylmethanediisocyanate, isomeres and	homologues (9016-87-9)	
BCF - Fish [1]	1 (Pisces, Literature study)	
Partition coefficient n-octanol/water (Log Kow)	10.46 (Calculated, KOWWIN)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).	
Alkanes, C14-17, chloro (MCCP, Medium chaine	ed 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 Kow)	4.7 – 8.3 (Experimental value, Equivalent or similar to OECD 117)	
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).	
tris(2-chloro-1-methylethyl) phosphate (13674-84	4-5)	
BCF - Fish [1]	0.8 – 2.8 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Pisces, Flow-	
	through system, Experimental value)	
Partition coefficient n-octanol/water (Log Kow)	2.68 (Experimental value, Equivalent or similar to OECD 117)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).	

12.4. Mobility in soil

CF-I 50 ECO GV/ CF-F 750/ CF-F 750-GV		
Mobility in soil	No additional information available	
4,4'-diphenylmethanediisocyanate, isomeres and	I homologues (9016-87-9)	
Organic Carbon Normalized Adsorption	9.078 – 10.597 (log Koc, SRC PCKOCWIN v2.0, Calculated value)	
Coefficient (Log Koc)		
Ecology - soil	Adsorbs into the soil.	
Alkanes, C14-17, chloro (MCCP, Medium chaine	ed chlorinated paraffins) (85535-85-9)	
Organic Carbon Normalized Adsorption	5 – 5.2 (log Koc, Experimental value)	
Coefficient (Log Koc)		
Ecology - soil	Low potential for mobility in soil.	
tris(2-chloro-1-methylethyl) phosphate (13674-84	4-5)	
Surface tension	No data available in the literature	
Organic Carbon Normalized Adsorption	2.24 (log Koc, OECD 106: Adsorption/Desorption Using a Batch Equilibrium Method, Read-	
Coefficient (Log Koc)	across)	
Ecology - soil	Low potential for adsorption in soil.	

12.5. Other adverse effects

Ozone Not classified

Other adverse effects No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

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.

Ecology - waste materials Avoid release to the environment.

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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 shippi	ng name			
AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS	AEROSOLS
Transport document descrip	otion			
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
2	2		2	2
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental ha	zards			
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 informat	ion available			

14.6. Special precautions for user

Overland transport

Classification code (ADR) 5F

Special provisions (ADR) 190, 327, 344, 625

Limited quantities (ADR)

Packing instructions (ADR) P207, LP02
Mixed packing provisions (ADR) MP9
Transport category (ADR) 2
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-DEmS-No. (Spillage)S-UStowage category (IMDG)NoneMFAG-No126

Air transport

PCA packing instructions (IATA) 203
PCA max net quantity (IATA) 75kg
CAO packing instructions (IATA) 203

Special provisions (IATA) A145, A167, A802

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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. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

Issue date 30/11/2021

Full text of H-statements:	
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H229	Pressurised container: May burst if heated
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H362	May cause harm to breast-fed children
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects

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H413	May cause long lasting harmful effects to aquatic life

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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.

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