

# CF ISO 500+ / CF ISO 750+ / CF-I 65 ECO / CF-I ECO +

## Safety Data Sheet

according to NCh2245:2015

Issue date: 09/12/2021

Revision date: :

Version: 1.0

### SECTION 1: Identification

#### 1.1. GHS Product identifier

Product form	Mixture
Trade name	CF ISO 500+ / CF ISO 750+ / CF-I 65 ECO / CF-I ECO +
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
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#### 1.4. Supplier's details

Supplier	Department issuing data specification sheet
Hilti India Private Limited	Hilti AG
F-90/4, Okhla Industrial Area Phase 1	Feldkircherstraße 100
110 020 New Delhi - India	9494 Schaan - Liechtenstein
T +9111 4270 1111 - F +91 405 23318	T +423 234 2111

#### 1.5. Emergency phone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service
	+41 44 251 51 51 (international)
	+9111 4064 6500
	+9111 4270 1122

### 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
Acute toxicity (oral) Not classified		Expert judgment
Acute toxicity (inhalation:dust,mist) Not classified		Expert judgment
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
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

Full text of H-statements: see section 16

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### 2.2. GHS Label elements, including precautionary statements

#### Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)



GHS02

GHS07

GHS08

Signal word (GHS UN)

Danger

Hazardous ingredients

4,4'-diphenylmethanediisocyanate, isomeres and homologues

Hazard statements (GHS UN)

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

Precautionary statements (GHS UN)

### 2.3. Other hazards which do not result in classification

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. 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	25 – 50	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	10 – 20	Flammable liquids Not classified Acute toxicity (oral), Category 4, H302 Hazardous to the aquatic environment — Acute Hazard, Category 3, H402

Full text of H-statements: see section 16

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### 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. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
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. Wash with plenty of water/.... Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). If skin irritation or rash occurs:
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	Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects after inhalation	Danger of serious damage to health by prolonged exposure through inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause respiratory irritation.
Symptoms/effects after skin contact	Causes skin irritation.
Symptoms/effects after eye contact	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	Foam. Dry powder. Carbon dioxide. Water spray. 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 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.

### SECTION 6: Accidental release measures

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

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

Emergency procedures	Evacuate unnecessary personnel.
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##### 6.1.2. For emergency responders

Protective equipment	Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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### 6.3. Methods and materials 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. Store away from other materials.
Other information	Dispose of materials or solid residues at an authorized site. After curing, the product can be disposed of with household waste.

## 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. 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 dust/fume/gas/mist/vapours/spray.
Hygiene measures	Wash hands, forearms and face thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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

Storage conditions	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.
Other information	Do not eat, drink or smoke during use.

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

Hand protection	Wear protective gloves.
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Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	0 (< 10 minutes)			
Reusable gloves	Viton® II	2 (> 30 minutes)			

Eye protection	Chemical goggles or safety glasses
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
	Type A - High-boiling (>65 °C) organic compounds		

Personal protective equipment symbol(s)

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### 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	Grey.
Odour	characteristic.
Odour threshold	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	Not available
Flammability (solid, gas)	Extremely flammable aerosol.
Explosive limits	Not available
Lower explosive limit (LEL)	Not available
Upper explosive limit (UEL)	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	Not available
pH solution	Not available
Viscosity, kinematic (calculated value) (40 °C)	Not available
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Vapour pressure at 50 °C	Not available
Density	1.047 g/cm <sup>3</sup>
Relative density	1.047
Relative vapour density at 20 °C	Not available
Solubility	Not available
Explosive properties	Pressurised container: May burst if heated.
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)

VOC content	20.76 %
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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

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

#### 10.2. Chemical stability

Not established.

#### 10.3. Possibility of hazardous reactions

Not established.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

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.

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)
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
LD50 oral rat	1101 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 oral	1150 – 1750
LD50 dermal rabbit	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 5 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
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	Not classified
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

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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)	Not classified

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LC50 - Other aquatic organisms [1]	> 1000 mg/l (96 h, Literature study)
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
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 ISO 500+ / CF ISO 750+ / CF-I 65 ECO / CF-I ECO +	
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.
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
Persistence and degradability	Not readily biodegradable in water.

#### 12.3. Bioaccumulative potential

CF ISO 500+ / CF ISO 750+ / CF-I 65 ECO / CF-I ECO +	
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).
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
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

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Mobility in soil	No additional information available
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
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.
tris(2-chloro-1-methylethyl) phosphate (13674-84-5)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.24 (log Koc, OECD 106: Adsorption/Desorption Using a Batch Equilibrium Method, Read-across)
Ecology - soil	Low potential for adsorption in soil.

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### 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	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.

## SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
UN 1950	UN 1950	UN 1950	UN 1950	UN 1950
<b>14.2. UN proper shipping name</b>				
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
<b>14.3. Transport hazard class(es)</b>				
2.1	2.1	2.1	2.1	2.1
				
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
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
Tunnel restriction code (ADR)	D



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

No additional information available

## SECTION 16: Other information

Issue date 09/12/2021

Section	Changed item	Change	Comments
			new foam cluster

Other information None.

Full text of H-statements:	
H220	Extremely flammable gas
H222	Extremely flammable aerosol



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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
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful 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.*