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

Safety Data Sheet

according to the Hazardous Substances and New Organisms Act (1996)

Issue date: 09/12/2021 Revision date: Supersedes: Version: 1.0

SECTION 1: Identification of the hazardous chemical and of the supplier

1.1 Product identifier

Trade name	CF ISO 500+ / CF ISO 750+ / CF-I 65 ECO / CF-I ECO +
Product form	Mixture
Product code	BU Fire Protection Foam

1.2 Other means of identification

No additional information available

1.3 Relevant identified uses of the substance or mixture and uses advised against

No additional information available

1.4 Supplier's details

Supplier
Hilti (New Zealand) Ltd.
Level 1, Building B 600 South Road
Ellerslie
1051 Auckland - New Zealand
T +64 9 571 9995
, 800 444 584 toll free - F +64 9526 7780
servicenz@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 phone number

Emergency number

Schweizerisches Toxikologisches Informationszentrum – 24h Service
+41 44 251 51 51 (international)
+64 9 571 9995
; 800 444 584 toll free

Country	Organisation/Company	Address	Emergency number
New Zealand	National Poisons Centre		0800 623 000

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

HSNO Approval Number: HSR002517

2.1.2A	Aerosol, Category 1
	Acute toxicity (oral) Not classified
Acute toxicity (inhalation	dust,mist) Not classified
6.3A	Skin corrosion/irritation, Category 2
6.4A	Serious eye damage/eye irritation, Category 2
6.5A	Respiratory sensitisation, Category 1
6.5B	Skin sensitisation, Category 1
6.7B	Carcinogenicity, Category 2
6.1E (Respiratory tract irritant)	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
6.9B	Specific target organ toxicity — Repeated exposure, Category 2
9.3C	Ecotoxicity to terrestrial vertebrates C

2.2. Label elements

GHS NZ labelling

Hazard pictograms (GHS NZ)	 GHS02 GHS07 GHS08
Signal word (GHS NZ)	Danger
Contains	4,4'-diphenylmethanediisocyanate, isomeres and homologues (25 – 50 %)
Hazard statements (GHS NZ)	H222 - Extremely flammable aerosol. 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. H433 - Harmful to terrestrial vertebrates
Prevention	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.
Storage	P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C

2.3. Other hazards not contributing to the classification

No additional information available

SECTION 3: Composition and information of the ingredients of the hazardous chemical

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc.	Classification according to GHS NZ
4,4'-diphenylmethanediisocyanate, isomeres and homologues	(CAS-No.) 9016-87-9	25 – 50	6.1D: Acute Tox. 4 (Inhalation:dust,mist), H332 6.3A: Skin Irrit. 2, H315 6.4A: Eye Irrit. 2, H319 6.5A: Resp. Sens. 1, H334 6.5B: Skin Sens. 1, H317 6.7B: Carc. 2, H351 6.1E (Respiratory tract irritant) : STOT SE 3, H335 6.9B: STOT RE 2, H373
Reaction products of phosphoryl trichloride and 2-methyloxirane (TCPP)	(CAS-No.) 1244733-77-4	10 – 20	6.1D: Acute Tox. 4 (Oral), H302

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 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 and effects, both 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 any immediate medical attention and special treatment needed

Other medical advice or treatment	Treat symptomatically.

SECTION 5: Firefighting measures

5.1. 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. 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 equipment and precautions 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

No additional information available

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.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

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	Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

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.
Storage temperature	5 – 25 °C
Heat and ignition sources	Keep away from heat and direct sunlight. Keep away from ignition sources.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

Exposure limit values for the other components

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

Hand protection: Wear protective gloves.

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)

Environmental exposure controls	Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state	Liquid
Appearance	Aerosol.
Colour	Grey
Odour	characteristic
Odour threshold	No data available
pH	No data available
Evaporation rate	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point / Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Flammability (solid, gas)	Extremely flammable aerosol.
Vapour pressure	No data available
Relative density	No data available
Density	Density : 1.047 g/cm³ Relative density : 1.047
Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	Pressurised container: May burst if heated.
Explosive limits	No data available
Minimum ignition energy	No data available
VOC content	20.76 %

SECTION 10: Stability and reactivity

Reactivity	Extremely flammable aerosol. Pressurised container: May burst if heated.
Chemical stability	Not established.
Possibility of hazardous reactions	Not established.
Conditions to avoid	Direct sunlight. Extremely high or low temperatures.
Incompatible materials	Strong acids. Strong bases.
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)

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.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard	Not classified

CF ISO 500+ / CF ISO 750+ / CF-I 65 ECO / CF-I ECO +	
Vaporizer	Aerosol
Viscosity, kinematic	

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
Soil toxicity	Not classified
Terrestrial vertebrate toxicity	Harmful to terrestrial vertebrates.
Terrestrial invertebrate toxicity	Not classified

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)
LD50 dermal rabbit	> 5000 mg/kg (Rabbit, Literature study, Dermal)
LD50 oral rat	> 10000 mg/kg (Rat, Literature study, Oral)

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.

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 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

CF ISO 500+ / CF ISO 750+ / CF-I 65 ECO / CF-I ECO +	
Mobility in soil	No additional information available

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	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
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
				

ADR	IMDG	IATA	ADN	RID
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)	1l
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-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

14.8. Hazchem or Emergency Action Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Hazardous Substances and New Organisms Act

HSNO Approval Number HSR002517

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Issue date 9/12/2021

Indication of changes:

Section	Changed item	Change	Comments
			new foam cluster

Other information None.

Full text of H-statements:

2.1.2A: Aerosol 1	2.1.2A: Aerosol, Category 1
6.1D: Acute Tox. 4 (Inhalation:dust,mist)	6.1D: Acute toxicity (inhalation:dust,mist) Category 4
6.1D: Acute Tox. 4 (Oral)	6.1D: Acute toxicity (oral), Category 4
6.1E (Respiratory tract irritant) : STOT SE 3	6.1E (Respiratory tract irritant) : Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
6.3A: Skin Irrit. 2	6.3A: Skin corrosion/irritation, Category 2
6.4A: Eye Irrit. 2	6.4A: Serious eye damage/eye irritation, Category 2
6.5A: Resp. Sens. 1	6.5A: Respiratory sensitisation, Category 1
6.5B: Skin Sens. 1	6.5B: Skin sensitisation, Category 1
6.7B: Carc. 2	6.7B: Carcinogenicity, Category 2
6.9B: STOT RE 2	6.9B: Specific target organ toxicity — Repeated exposure, Category 2
9.3C: Ecotoxicity to terrestrial vertebrates C	9.3C: Ecotoxicity to terrestrial vertebrates C
Acute Tox. Not classified (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Not classified
Acute Tox. Not classified (Oral)	Acute toxicity (oral) Not classified
H222	Extremely flammable aerosol.
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.
H433	Harmful to terrestrial vertebrates

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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.