

CFR 1

Safety Data Sheet

According to ICOP 2014

Issue date: 05/08/2022

Revision date: 8/5/2022

Supersedes: 11/09/2020

Version: 22.1

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

1.1. Product identifier

Trade name	CFR 1
Name	CFR 1
Product form	Mixture
Product code	BU Fire Protection



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 (Malaysia) Sdn. Bhd.
F-5-A, Sime Darby Brunfield Tower, No. 2, Jalan PJU 1A/7A
Oasis Square, Oasis Damansara
47301 Petaling Jaya, Selangor - Malaysia
T +60 3 5628 7222
; 1800 880 985 toll free - F +60 3 7848 7399

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) +60 3 5628 7222 ; 1800 880 985 toll free
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SECTION 2: Hazards identification

2.1. Classification of the hazardous chemical

Classification according to Industry Code of Practice on chemicals classification and hazard communication (2014)

Flam. Aerosol 1	H222
Eye Irrit. 2	H319
STOT SE 3	H336

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2.2. Label elements

Labelling according to Industry Code of Practice on chemicals classification and hazard communication (2014)

Hazard pictograms (GHS MY)



GHS02

GHS07

Signal word (GHS MY)

Danger

Contains

Acetone; ethyl acetate

Hazard statements (GHS MY)

H222 - Extremely flammable aerosol
 H319 - Causes serious eye irritation
 H336 - May cause drowsiness or dizziness

Precautionary statements (GHS MY)

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P211 - Do not spray on an open flame or other ignition source
 P251 - Pressurized container: Do not pierce or burn, even after use
 P261 - Avoid breathing spray
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

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	%
Acetone	(CAS-No.) 67-64-1	40 – 60
ethyl acetate	(CAS-No.) 141-78-6	10 – 25
Isobutane (Propane, 2-methyl)	(CAS-No.) 75-28-5	< 25
propane	(CAS-No.) 74-98-6	< 10
butane	(CAS-No.) 106-97-8	< 10

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

Call a poison center/doctor/physician if you feel unwell. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact

If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

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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/doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

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

Symptoms/effects after inhalation	May cause drowsiness or dizziness.
Symptoms/effects after eye contact	Eye irritation. Causes serious eye irritation.

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

Other medical advice or treatment	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Carbon dioxide. Sand. Alcohol resistant foam.
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	Pressurized container: may burst if heated.
Hazardous decomposition products in case of fire	Carbon dioxide. Carbon monoxide. vapors may form explosive mixture with air.
Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. 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	Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing 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. Avoid breathing dust/fume/gas/mist/vapors/spray.
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	Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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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. Pressurized container: Do not pierce or burn, even after use. Use only outdoors or in a well-ventilated area. Avoid breathing spray. Avoid contact with skin and eyes. Wear personal protective equipment. 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 vapor.

Hygiene measures

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.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Incompatible products

Strong bases. Strong acids.

Incompatible materials

Sources of ignition. Direct sunlight.

Storage temperature

5 – 25 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

propane (74-98-6)	
Malaysia - Occupational Exposure Limits	
Local name	Propana # Propane
PEL (OEL TWA) [2]	2500 ppm
Acetone (67-64-1)	
Malaysia - Occupational Exposure Limits	
Local name	Aseton # Acetone
PEL (OEL TWA) [1]	1187 mg/m ³
PEL (OEL TWA) [2]	500 ppm
ethyl acetate (141-78-6)	
Malaysia - Occupational Exposure Limits	
Local name	Etil asetat # Ethyl acetate
PEL (OEL TWA) [1]	1440 mg/m ³
PEL (OEL TWA) [2]	400 ppm
butane (106-97-8)	
Malaysia - Occupational Exposure Limits	
Local name	Butana # Butane
PEL (OEL TWA) [1]	1900 mg/m ³
PEL (OEL TWA) [2]	800 ppm

Exposure limit values of 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. Personal protective equipment

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Hand protection:

Wear protective gloves.

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)				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:

In case of insufficient ventilation, wear suitable respiratory equipment

Device	Filter type	Condition	Standard
	Filter AX (brown)		

Personal protective equipment symbol(s):



Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state	Liquid
Appearance	Aerosol.
Color	Colorless
Odor	characteristic
Odor threshold	No data available
pH	No data available
Melting point, Freezing point	Melting point: Not applicable
Boiling point	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	Extremely flammable aerosol
Explosion limits	No data available
Vapor pressure	Vapor pressure: 2500 – 2900 hPa at 20°C
Relative vapor density at 20 °C	No data available
Relative density	No data available
Solubility	Soluble in water.
Partition coefficient n-octanol/water (Log Pow)	No data available
Partition coefficient n-octanol/water (Log Kow)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available

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Viscosity, kinematic	0.74 – 0.76 g/cm ³
Viscosity, dynamic	No data available
Explosive properties	Pressurized container: may burst if heated.
Density	0.74 – 0.76 g/cm ³

SECTION 10: Stability and reactivity

Reactivity	Extremely flammable aerosol, Pressurized container: may burst if heated
Chemical stability	Stable under normal conditions, Not established
Possibility of hazardous reactions	No dangerous reactions known under normal conditions of use, Not established
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
Incompatible materials	Strong acids, Strong bases
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced, 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

Acetone (67-64-1)	
LD50 oral rat	5800 mg/kg (Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 15800 mg/kg body weight (24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	76 mg/l (4 h, Rat, Female, Weight of evidence, Inhalation (vapours))
ethyl acetate (141-78-6)	
LD50 oral rat	10200 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 20000 mg/kg body weight (24 hour cuff method, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))

Skin corrosion or irritation	Not classified
Serious eye damage or eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (STOT) – single exposure	May cause drowsiness or dizziness.
Specific target organ toxicity (STOT) – repeated exposure	Not classified
Aspiration hazard	Not classified

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Vaporizer	Aerosol
Potential Adverse human health effects and symptoms	Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	Not classified
Hazardous to the aquatic environment, long-term (chronic)	Not classified
Other information	Avoid release to the environment.

Acetone (67-64-1)	
LC50 - Fish [1]	6210 – 8120 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Measured concentration)
Partition coefficient n-octanol/water (Log Pow)	-0.23 (Test data)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.374 – 0.988 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

ethyl acetate (141-78-6)	
LC50 - Fish [1]	230 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
BCF - Fish [1]	30 (3 day(s), Leuciscus idus, Static renewal, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	0.68 (Experimental value, EPA OPPTS 830.7560, 25 °C)

12.2. Persistence and degradability

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Persistence and degradability	Not established.

Isobutane (Propane, 2-methyl) (75-28-5)	
Not rapidly degradable	

propane (74-98-6)	
Not rapidly degradable	

Acetone (67-64-1)	
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.43 g O ₂ /g substance
Chemical oxygen demand (COD)	1.92 g O ₂ /g substance
ThOD	2.2 g O ₂ /g substance

ethyl acetate (141-78-6)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.293 g O ₂ /g substance
Chemical oxygen demand (COD)	1.69 g O ₂ /g substance
ThOD	1.82 g O ₂ /g substance

butane (106-97-8)	
Not rapidly degradable	

12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.

Acetone (67-64-1)	
Partition coefficient n-octanol/water (Log Pow)	-0.23 (Test data)

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Acetone (67-64-1)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.374 – 0.988 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Bioaccumulative potential	Not bioaccumulative.
ethyl acetate (141-78-6)	
BCF - Fish [1]	30 (3 day(s), Leuciscus idus, Static renewal, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	0.68 (Experimental value, EPA OPPTS 830.7560, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

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Mobility in soil	No additional information available
Acetone (67-64-1)	
Surface tension	23.3 mN/m (20 °C)
Partition coefficient n-octanol/water (Log Pow)	-0.23 (Test data)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.374 – 0.988 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.
ethyl acetate (141-78-6)	
Surface tension	No data available in the literature
Partition coefficient n-octanol/water (Log Pow)	0.68 (Experimental value, EPA OPPTS 830.7560, 25 °C)
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 information

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 / RID /

ADR	IMDG	IATA	RID
14.1. UN number			
UN 1950	UN 1950	UN 1950	UN 1950
14.2. UN proper shipping name			
AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS

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ADR	IMDG	IATA	RID
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
14.3. Transport hazard class(es)			
2.1	2.1	2.1	2.1
14.4. Packing group			
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
No supplementary information available			

14.6. Special precautions for user

Overland transport

Classification code (ADR)	5F
Special provision (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

Transport by sea

Special provision (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 provision (IATA)	A145, A167, A802

Rail transport

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

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

Not applicable

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14.8. 14.8. Hazchem or Emergency Action Code

Not applicable

SECTION 15: Regulatory information

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

Regulation		Component/ Mixture
Environmental Quality (Chlorofluorocarbons Prohibition) Order 1993	Not applicable	CFR 1
Environmental Quality (Industrial Effluent) Regulations 2009		CFR 1
Environmental Quality (Scheduled Wastes) Regulations 2007		CFR 1
Control of Industrial Major Accident Hazards Regulations 1996		CFR 1
Prohibition of Use of Substance Order 1999		CFR 1
Use and Standards of Exposure of Chemical Hazardous to Health Regulations 2000		CFR 1
Chemical Weapons Convention Act		CFR 1
Corrosive and Explosive Substances and Offensive Weapons Act		CFR 1
Dangerous Drugs Act		CFR 1
Pesticides Act		CFR 1
Petroleum (Safety Measures) Act	List of petroleums	Propane; Butane
Poisons Act 1952	Not applicable	CFR 1
Poisons (Psychotropic Substances) Regulations 1989		CFR 1

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Version	22.1
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Revision date	05/08/2022
Supersedes	11/09/2020

Indication of changes:

Section	Changed item	Change	Comments
			general update

Other information None.

Full text of H-phrases:

Eye Irrit. 2	Serious eye damage or eye irritation, Category 2
Flam. Aerosol 1	Flammable aerosols, Category 1
Flam. Gas 1	Flammable gases, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Press. Gas (Comp.)	Gases under pressure : Compressed gas
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H225	Highly flammable liquid and vapour
H280	Contains gas under pressure; may explode if heated
H319	Causes serious eye irritation



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H336	May cause drowsiness or dizziness
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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.