

CFR 1

Safety Data Sheet

according to the United Nations GHS (Rev. 9, 2021)

Issue date: 18/11/2024

Revision date: 18/11/2024

Supersedes: 05/08/2022

Version: 22.2

SECTION 1: Identification

1.1. GHS Product identifier

Product form Mixture
 Trade name CFR 1
 UN-No. (ADR) 1950
 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

Use of the substance/mixture Spray cleaners

1.4. Supplier's details

Supplier

Hilti India Private Limited
 F-90/4, Okhla Industrial Area Phase 1
 IN 110 020 New Delhi
 India
 T +9111 4270 1111, F +91 405 23318

Department issuing data specification sheet

Hilti AG
 Feldkircherstraße 100
 FL 9494 Schaan
 Liechtenstein
 T +423 234 2111

product.compliance-fire.protection@hilti.com

1.5. Emergency phone number

Emergency number Emergency CONTACT (24-Hour-Number):
 GBK GmbH Global Regulatory Compliance
 +49 (0)6132-84463

Country	Organisation/Company	Address	Emergency number	Comment
India	National Poisons Information Centre (NPIC) All India Institute Of Medical Sciences, Department of Pharmacology	110029 New Delhi	+91 (0)11-2658 9391; +91 (0)11-2659 3677 +91 1800 116 117 (toll free)	

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
 Serious eye damage/eye irritation, Category 2 H319 Calculation method

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Specific target organ toxicity – Single exposure, Category 3, Narcosis H336

Calculation method

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

Pressurised container: May burst if heated, Extremely flammable aerosol, May cause drowsiness or dizziness, Causes serious eye irritation.

2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)



Signal word (GHS UN)

Danger

Hazardous ingredients

Acetone; ethyl acetate

Hazard statements (GHS UN)

H222 - Extremely flammable aerosol

H229 - Pressurised container: May burst if heated

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

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.

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 which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
Acetone	CAS-No.: 67-64-1	40 – 60	Flammable liquids, Category 2, H225 Acute toxicity (oral) Not classified Acute toxicity (dermal) Not classified Acute toxicity (inhalation:dust,mist) Not classified Serious eye damage/eye irritation, Category 2, H319 Serious eye damage/eye irritation, Category 2A, H319 Specific target organ toxicity – Single exposure, Category 3, Narcosis, H336 Hazardous to the aquatic environment – Acute Hazard Not classified Hazardous to the aquatic environment – Chronic Hazard Not classified
ethyl acetate	CAS-No.: 141-78-6	10 – 25	Flammable liquids, Category 2, H225 Serious eye damage/eye irritation, Category 2, H319 Specific target organ toxicity – Single exposure, Category 3, Narcosis, H336 Flammable liquids, Category 2, H225
isobutane	CAS-No.: 75-28-5	< 25	Flammable gases, Category 1A, H220 Gases under pressure : Compressed gas, H280 Acute toxicity (inhalation:gas) Not classified
propane	CAS-No.: 74-98-6	< 10	Flammable gases, Category 1A, H220 Gases under pressure : Liquefied gas, H280
butane	CAS-No.: 106-97-8	< 10	Flammable gases, Category 1A, H220 Gases under pressure : Liquefied gas, H280

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 general	Call a poison center or a doctor 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/doctor 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.
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 drowsiness or dizziness.
Symptoms/effects after eye contact	Eye irritation. Causes serious eye irritation.
Potential adverse human health effects and symptoms	Based on available data, the classification criteria are not met.

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. Carbon dioxide. Sand. Alcohol resistant foam.
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	Carbon dioxide. Carbon monoxide. 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 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/vapours/spray.
Emergency procedures	Ventilate area.

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6.2. Environmental precautions

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	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.
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. 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 vapour.
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

ethyl acetate (141-78-6)	
India - Occupational Exposure Limits	
Local name	Ethyl acetate
PEL (OEL TWA)	1400 mg/m ³
	400 ppm
Regulatory reference	Factories Act 1948 [Act No. 63 of 1948] As amended by the Factories (Amendment) Act, 1987. The second shedule "Permissible levels of certain chemical substances in work environment"
butane (106-97-8)	
India - Occupational Exposure Limits	
Local name	Butane
PEL (OEL TWA)	1900 mg/m ³
	800 ppm
Regulatory reference	Factories Act 1948 [Act No. 63 of 1948] As amended by the Factories (Amendment) Act, 1987. The second shedule "Permissible levels of certain chemical substances in work environment"

8.2. Appropriate engineering controls

Appropriate engineering controls	Ensure good ventilation of the work station.
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Relative density	Not available
Relative vapour density at 20°C	Not available
Solubility	Soluble in water.
Particle size	Not applicable

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

Explosive properties	Pressurised container: May burst if heated.
% of flammable ingredients	112 %

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

No dangerous reactions known under normal conditions of use. 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

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

isobutane (75-28-5)	
LC50 Inhalation - Rat [ppm]	> 800000 ppm (15 minutes, Rat, Male / female, Experimental value, Inhalation (gases))
propane (74-98-6)	
LC50 Inhalation - Rat [ppm]	> 800000 ppm (15 minutes, Rat, Male / female, Experimental value, Inhalation (gases))
Acetone (67-64-1)	
LD50 oral rat	5800 mg/kg (Rat, Female, Experimental value, Oral, 14 day(s))
LD50 oral	6667 mg/kg
LD50 dermal rabbit	> 15800 mg/kg bodyweight (24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
LD50 dermal	20000 mg/kg
LC50 Inhalation - Rat	132 mg/l (3 h, Rat, Male, Experimental value, Inhalation (vapours))
ethyl acetate (141-78-6)	
LD50 oral rat	10200 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 oral	5600 mg/kg
LD50 dermal rabbit	> 20000 mg/kg bodyweight (24 hour cuff method, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))

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ethyl acetate (141-78-6)	
LD50 dermal	18000 mg/kg
LC50 Inhalation - Rat (Vapours)	52.75 mg/l/4h
butane (106-97-8)	
LC50 Inhalation - Rat [ppm]	276798.8 ppm
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	May cause drowsiness or dizziness.
Acetone (67-64-1)	
STOT-single exposure	May cause drowsiness or dizziness.
ethyl acetate (141-78-6)	
STOT-single exposure	May cause drowsiness or dizziness.
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.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	The product is not considered harmful to aquatic organisms nor 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

isobutane (75-28-5)	
EC50 96h - Algae [1]	8.57 mg/l (ECOSAR v1.00, Algae, Fresh water, QSAR)
propane (74-98-6)	
EC50 96h - Algae [1]	12 mg/l (ECOSAR v1.00, Algae, Fresh water, QSAR)
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)
EC50 - Crustacea [1]	> 12700 mg/l
ErC50 algae	> 530 mg/l 96h, Pseudokirchneriella subcapitata
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)
EC50 - Crustacea [1]	262 mg/l

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ethyl acetate (141-78-6)	
NOEC chronic crustacea	2.4 mg/l

12.2. Persistence and degradability

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Persistence and degradability	Not established.

isobutane (75-28-5)	
Not rapidly degradable	
Persistence and degradability	Readily biodegradable in water.

propane (74-98-6)	
Not rapidly degradable	
Persistence and degradability	Readily biodegradable in water.

Acetone (67-64-1)	
Not rapidly degradable	
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.

isobutane (75-28-5)	
Partition coefficient n-octanol/water (Log Kow)	1.09 – 2.8 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

propane (74-98-6)	
Partition coefficient n-octanol/water (Log Kow)	1.1 – 2.8 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Acetone (67-64-1)	
BCF - Fish [1]	0.69 (Pisces, Literature study)
Partition coefficient n-octanol/water (Log Kow)	-0.23 (Test data)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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ethyl acetate (141-78-6)	
BCF - Fish [1]	30 (3 day(s), Leuciscus idus, Static renewal, Experimental value)
Partition coefficient n-octanol/water (Log Kow)	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
isobutane (75-28-5)	
Surface tension	No data available in the literature
Ecology - soil	Not applicable (gas).
propane (74-98-6)	
Surface tension	No data available in the literature
Ecology - soil	Not applicable (gas).
Acetone (67-64-1)	
Surface tension	23.3 mN/m (20 °C)
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
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

Ozone	Not classified
Other adverse effects	No additional information available
Other information	Avoid release to the environment.

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.
Ecological information	Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID /

ADR	IMDG	IATA	RID
14.1. UN number or ID 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
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 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

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

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

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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

SDS Major/Minor	None
Issue date	18-11-2024
Revision date	18-11-2024
Supersedes	05-08-2022

Indication of changes:

Modified.

Section	Changed item	Change	Comments
			general update

Abbreviations and acronyms

CAS-No. - Chemical Abstract Service number
 ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE - Acute Toxicity Estimate
 BCF - Bioconcentration factor
 BLV - Biological limit value
 BOD - Biochemical oxygen demand (BOD)
 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
 DMEL - Derived Minimal Effect level
 DNEL - Derived-No Effect Level
 EC-No. - European Community number
 EC50 - Median effective concentration
 ED - Endocrine disrupting properties
 EN - European Standard
 IARC - International Agency for Research on Cancer
 IATA - International Air Transport Association
 IMDG - International Maritime Dangerous Goods
 IOELV - Indicative Occupational Exposure Limit Value
 LC50 - Median lethal concentration
 LD50 - Median lethal dose
 LOAEL - Lowest Observed Adverse Effect Level
 N.O.S. - Not Otherwise Specified
 NOAEC - No-Observed Adverse Effect Concentration
 NOAEL - No-Observed Adverse Effect Level
 NOEC - No-Observed Effect Concentration
 vPvB - Very Persistent and Very Bioaccumulative
 WGK - Water Hazard Class
 VOC - Volatile Organic Compounds
 SDS - Safety Data Sheet
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
 PNEC - Predicted No-Effect Concentration
 PBT - Persistent Bioaccumulative Toxic

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OEL - Occupational Exposure Limit
 OECD - Organisation for Economic Co-operation and Development
 COD - Chemical oxygen demand (COD)
 ThOD - Theoretical oxygen demand (ThOD)
 TRGS - Technical Rules for Hazardous Substances
 TLM - Median Tolerance Limit
 STP - Sewage treatment plant
 None.

Other information

Full text of H-statements:	
Acute Tox. Not classified (Dermal)	Acute toxicity (dermal) Not classified
Acute Tox. Not classified (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Not classified
Acute Tox. Not classified (Inhalation:gas)	Acute toxicity (inhalation:gas) Not classified
Acute Tox. Not classified (Oral)	Acute toxicity (oral) Not classified
Aquatic Acute Not classified	Hazardous to the aquatic environment – Acute Hazard Not classified
Aquatic Chronic Not classified	Hazardous to the aquatic environment – Chronic Hazard Not classified
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Gas 1A	Flammable gases, Category 1A
Flam. Liq. 2	Flammable liquids, Category 2
Press. Gas (Comp.)	Gases under pressure : Compressed gas
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H225	Highly flammable liquid and vapour
H229	Pressurised container: May burst if heated
H280	Contains gas under pressure; may explode if heated
H319	Causes serious eye irritation
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.