

CF 116

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Revision date: 10/23/2025

Issue date: 10/23/2025

Supersedes: 8/13/2025

Version: 4.0

SECTION 1: Identification

1.1. Identification

Product form	Mixture
Trade name	CF 116
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

No additional information available

1.4. Supplier's details

Supplier

Hilti, Inc.
Legacy Tower, Suite 1000
7250 Dallas Parkway
US TX 75024 Plano
USA
T +1 9724035800
1-800-879-8000 toll free, F +1 918 254 0522
us-sales@hilti.com

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/Infotrac ID 101022 (USA domestic) 1 800 535 5053 or international (001) 352 323 3500
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Aerosol, Category 1	H222;H229	Extremely flammable aerosol. Pressurized container; may burst if heated.
Skin corrosion/irritation, Category 2	H315	Causes skin irritation.
Serious eye damage/eye irritation, Category 2	H319	Causes serious eye irritation.
Respiratory sensitization, Category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	H317	May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351	Suspected of causing cancer.
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation.
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H-statements: see section 16

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2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US)



Signal word (GHS US)

Danger

Hazard statements (GHS US)

- H222 - Extremely flammable aerosol
 - H229 - Pressurized 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
- Precautionary statements (GHS US)
- 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 protective gloves, eye protection, protective clothing.
 - P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 122 °F (50 °C).

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
4,4'-diphenylmethanediisocyanate, isomeres and homologues	CAS-No.: 9016-87-9	10 – 25	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373

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Name	Product identifier	%	GHS-US classification
Dimethyl ether (Propellant gas (Aerosol))	CAS-No.: 115-10-6	5 – 10	Flam. Gas 1, H220 Press. Gas (Comp.), H280
isobutane (Propellant gas (Aerosol))	CAS-No.: 75-28-5	5 – 10	Flam. Gas 1, H220 Press. Gas (Comp.), H280
Reaction products of phosphoryl trichloride and 2-methyloxirane	CAS-No.: 13674-84-5	5 – 10	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Chronic 3, H412
propane (Propellant gas (Aerosol))	CAS-No.: 74-98-6	2.5 – 5	Flam. Gas 1, H220 Press. Gas (Liq.), H280

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
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.
First-aid measures after skin contact	Wash contaminated clothing before reuse. 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. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Potential adverse human health effects and symptoms	Harmful if inhaled.
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. Harmful if inhaled.
Symptoms/effects after skin contact	Causes skin irritation. Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	Causes serious eye irritation. Eye irritation.
Symptoms/effects after ingestion	None under normal conditions.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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.
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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. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

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.

Packaging materials

Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available	
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
No additional information available	
USA - OSHA - Occupational Exposure Limits	
Local name	Toluene-2, 4-diisocyanate (TDI)
OSHA PEL C	0.14 mg/m ³
	0.02 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Dimethyl ether (115-10-6)	
No additional information available	
propane (74-98-6)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Propane
Remark (ACGIH®)	TLV® Basis: Simple Asphyxiant
Regulatory reference	ACGIH 2023
USA - OSHA - Occupational Exposure Limits	
Local name	Propane
OSHA PEL TWA	1800 mg/m ³
	1000 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aerosol.
Colour	Manila
Odour	ether-like odour
Odour threshold	No data available
pH	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Relative evaporation rate (butylacetate=1)	No data available
Flammability (solid, gas)	Extremely flammable aerosol.
Vapour pressure	5100
Relative vapour density at 20°C	No data available
Relative density	No data available
Density	0.94 g/cm ³
Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive limits	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2. Other information

Heat of combustion > 30 kJ/g NFPA 30B, Aerosol Classification Level: 3

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. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

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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)
LD50 dermal	9400 mg/kg
LC50 Inhalation - Rat	0.49 mg/l

propane (74-98-6)	
LC50 Inhalation - Rat [ppm]	> 800000 ppm (15 minutes, Rat, Male / female, Experimental value, Inhalation (gases))

isobutane (75-28-5)	
LC50 Inhalation - Rat [ppm]	> 800000 ppm (15 minutes, Rat, Male / female, Experimental value, Inhalation (gases))

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.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
IARC group	3 - Not classifiable

Reproductive toxicity	Not classified
STOT-single exposure	May cause respiratory irritation.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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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
Viscosity, kinematic	No data available
Potential adverse human health effects and symptoms	Harmful if inhaled.
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. Harmful if inhaled.
Symptoms/effects after skin contact	Causes skin irritation. Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	Causes serious eye irritation. Eye irritation.
Symptoms/effects after ingestion	None under normal conditions.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general May cause long lasting harmful effects to aquatic life.

4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
LC50 - Other aquatic organisms [1]	> 1000 mg/l (96 h, Literature study)
Dimethyl ether (115-10-6)	
LC50 - Fish [1]	> 4100 mg/l (NEN 6504: Water - Determination of toxicity with Poecilia reticulata, 96 h, Poecilia reticulata, Semi-static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 4400 mg/l (NEN 6501: Water - Determination of toxicity with Daphnia magna, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Lethal)
EC50 96h - Algae [1]	154.9 mg/l (ECOSAR v1.00, Algae, QSAR, Estimated value)
propane (74-98-6)	
EC50 96h - Algae [1]	12 mg/l (ECOSAR v1.00, Algae, Fresh water, QSAR)
isobutane (75-28-5)	
EC50 96h - Algae [1]	8.57 mg/l (ECOSAR v1.00, Algae, Fresh water, QSAR)

12.2. Persistence and degradability

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Persistence and degradability	Not established.
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
Dimethyl ether (115-10-6)	
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.
propane (74-98-6)	
Not rapidly degradable	
Persistence and degradability	Readily biodegradable in water.
isobutane (75-28-5)	
Not rapidly degradable	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
4,4'-diphenylmethanediisocyanate, isomeres and homologues (9016-87-9)	
BCF - Fish [1]	268.1 l/kg (BCFBAF v3.01, Estimated value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	10.46 (Calculated, KOWWIN)

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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. Disposal must be done according to official regulations.

Additional information

Do not re-use empty containers.

Ecological waste information

Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
1950	UN1950	1950	1950
14.2. Proper Shipping Name			
Aerosols	AEROSOLS	AEROSOLS	Aerosols, flammable
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	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

- DOT**
- UN-No. (DOT) : UN1950
 - DOT Special Provisions (49 CFR 172.102) : N82 - See 173.306 of this subchapter for classification criteria for flammable aerosols.
 - DOT Packaging Exceptions (49 CFR 173.xxx) : 306
 - DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg
 - DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg
 - DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
 - DOT Vessel Stowage Other : 25 - Protected from sources of heat, 87 - Stow "separated from" Class 1 (explosives) except Division 14, 126 - Segregation same as for Class 9, miscellaneous hazardous materials
- TDG**
- UN-No. (TDG) : UN1950

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TDG Special Provisions : 80 - Despite section 1.17 of Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases), a person must not offer for transport or transport these dangerous goods unless they are in a means of containment that is in compliance with the requirements for transporting gases in Part 5 (Means of Containment), 107 - (1) These Regulations, except for Parts 1 and 2, do not apply to the offering for transport, handling or transport of UN1950, AEROSOLS, and UN2037, GAS CARTRIDGES, that contain dangerous goods included in Class 2.1 or Class 2.2 and that are transported on a road vehicle, a railway vehicle or a vessel on a domestic voyage, if the aerosols or gas cartridges have a capacity less than or equal to 50 mL.
(2) Subsection (1) does not apply to self-defence spray.

Explosive Limit and Limited Quantity Index : 1 L
Excepted quantities (TDG) : E0
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 75 L
Emergency Response Guide (ERG) Number : 126

IMDG
Special provisions (IMDG) : 63, 190, 277, 327, 344, 959
Limited quantities (IMDG) : SP277
Packing instructions (IMDG) : P207, LP02
EmS-No. (Fire) : F-D - FIRE SCHEDULE Delta - FLAMMABLE GASES
EmS-No. (Spillage) : S-U - SPILLAGE SCHEDULE Uniform - GASES (FLAMMABLE, TOXIC OR CORROSIVE)
Stowage category (IMDG) : None
MFAG-No : 126

IATA
PCA packing instructions (IATA) : 203
PCA max net quantity (IATA) : 75kg
CAO packing instructions (IATA) : 203
Special provisions (IATA) : A145, A167, A802

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

4,4'-diphenylmethanediisocyanate, isomeres and homologues	CAS-No. 9016-87-9	10 – 25%
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15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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SECTION 16: Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Revision date	10/23/2025
Data sources	REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information	None.

Full text of hazard classes and H-statements	
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H229	Pressurized 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
H412	Harmful to aquatic life with long lasting effects

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

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Abbreviations and acronyms	
ED	Endocrine disruptor
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
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
ACGIH	American Conference of Government Industrial Hygienists
CSA	Chemical safety assessment
EWC	European waste catalogue
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)

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Abbreviations and acronyms	
MAK	maximum workplace concentration
OSHA	Occupational Safety Health Administration
PPE	Personal protection equipment
TF	Technical function
TWA	Time Weighted Average
UFI	Unique Formula Identifier

Indication of changes:			
Section	Changed item	Change	Comments
		Modified	Revision 7 of the UN GHS

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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.