

GC 11

Safety Data Sheet

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Version: 23.01

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form Mixture
 Name GC 11
 Product code BU Direct Fastening

Supplier

Hilti (Malaysia) Sdn. Bhd.
 F-5-A, Sime Darby Brunfield Tower, No. 2, Jalan
 PJU 1A/7A
 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 Entwicklungsgesellschaft mbH
 Hiltistrasse 6
 86916 Kaufering - Deutschland
 T +49 8191 906310 - F +49 8191 90176310
df-hse@hilti.com

1.4. Emergency telephone number

Emergency number Schweizerisches Toxikologisches Informationszentrum – 24h Service
 +41 44 251 51 51 (international)
 +60 3 5628 7222
 ; 1800 880 985 toll free

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS (Rev. 4, 2011)

Aerosol 1 H222;H229
 Full text of hazard classes and H-statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS (Rev. 4, 2011)

Hazard pictograms (GHS-UN)



GHS02

Signal word (GHS-UN)

Danger

Hazard statements (GHS-UN)

H222 - Extremely flammable aerosol
 H229 - Pressurised container: May burst if heated

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
 P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 122 °F, 50 °C

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

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Name	Product identifier	%	Classification according to the United Nations GHS (Rev. 4, 2011)
Dimethyl ether	(CAS No) 115-10-6	20 - <30	Flam. Gas 1, H220 Compressed gas, H280
propene	(CAS No) 115-07-1	20 - <30	Not classified
Isobutane	(CAS No) 75-28-5	10 - <20	Flam. Gas 1, H220 Compressed gas, H280
ethanol	(CAS No) 64-17-5	10 - <20	Not classified
Propane	(CAS No) 74-98-6	5 - <15	Flam. Gas 1, H220 Compressed gas, H280
Butane	(CAS No) 106-97-8	5 - 10	Flam. Gas 1, H220 Compressed gas, H280

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	Remove/Take off immediately all contaminated clothing.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion	Get immediate medical advice/attention.

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

Symptoms/injuries after inhalation	Shortness of breath.
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4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide. Dry powder. Foam. 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	Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity	The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	DO NOT fight fire when fire reaches explosives. Evacuate area.
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

General measures	Evacuate area. No flames, no sparks. Eliminate all sources of ignition.
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6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area. Avoid breathing vapours. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. Breathing apparatus.
 Emergency procedures: Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Do not flush with water.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed: Hazardous waste due to potential risk of explosion. Pressurized container: Do not pierce or burn, even after use.
 Precautions for safe handling: Do not eat, drink or smoke when using this product. Do not breathe vapours. Avoid contact with skin, eyes and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Hygiene measures: 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

Technical measures: Proper grounding procedures to avoid static electricity should be followed.
 Storage conditions: Keep cool. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F. Keep in fireproof place.
 Incompatible materials: Heat sources. Direct sunlight.
 Heat and ignition sources: Keep away from heat and direct sunlight.
 Prohibitions on mixed storage: Do not store with DX powder cartridges.
 Storage temperature: 5 - 25 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

Appropriate engineering controls: Ensure good ventilation of the work station.
 Hand protection: In case of repeated or prolonged contact wear gloves

Type	Material	Permeation	Thickness (mm)	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,4	EN 374

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Eye protection

Chemical goggles or safety glasses. EN 166. EN 170

Type	Use	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166, EN 170

Skin and body protection

When using setting tools, sufficient ear protection must be worn



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Gas
Colour	Colourless.
Odour	characteristic.
Odour threshold	No data available
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Auto-ignition temperature	< 300 °C
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapour pressure	8300 hPa @ 20°C
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.02 g/cm ³ (DIN 51757), @20°C
Solubility	Insoluble in water.
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	Product is not explosive. In use may form flammable/explosive vapour-air mixture.
Oxidising properties	No data available
Explosive limits	1.7 vol % 18.6 vol %

9.2. Other information

VOC content	1018.6 mg/l EU-VOC
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SECTION 10: Stability and reactivity

Conditions to avoid	Heat, Sparks, Open flame, Direct sunlight, Overheating
Hazardous decomposition products	Carbon dioxide, Carbon monoxide
Reactivity	The product is non-reactive under normal conditions of use, storage and transport

SECTION 11: Toxicological information

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11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

Dimethyl ether (115-10-6)	
LC50 inhalation rat (mg/l)	309 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	164000 ppm/4h (Rat; Literature study)

propene (115-07-1)	
LC50 inhalation rat (mg/l)	658 mg/l/4h (Rat; Literature)

Isobutane (75-28-5)	
LC50 inhalation rat (mg/l)	> 50 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	11000 ppm

ethanol (64-17-5)	
LD50 oral rat	10740 mg/kg bodyweight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 dermal rabbit	> 16000 mg/kg (Rabbit; Literature study)

Propane (74-98-6)	
LC50 inhalation rat (mg/l)	513 mg/l/4h (Rat; Literature)
LC50 inhalation rat (ppm)	280000 ppm/4h (Rat; Literature)

Butane (106-97-8)	
LC50 inhalation rat (mg/l)	658 mg/l/4h (Rat; Literature)
LC50 inhalation rat (ppm)	276000 ppm/4h (Rat; Literature)

Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified

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Vaporizer	Aerosol

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified

Dimethyl ether (115-10-6)	
LC50 fish 1	3082 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
LC50 fish 2	> 1000 mg/l (96 h; Pisces)
EC50 Daphnia 1	756.2 mg/l (48 h; Daphnia magna)
EC50 Daphnia 2	> 4400 mg/l (48 h; Daphnia magna)
Log Pow	0.10 (Experimental value; 0.07; QSAR; KOWWIN; 25 °C)
Threshold limit algae 1	154.9 mg/l (96 h; Algae)

propene (115-07-1)	
Log Pow	1.77 (Experimental value)
Threshold limit algae 1	3 - 15,Algae; QSAR

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propene (115-07-1)	
Threshold limit algae 2	10 - 100,Algae; Estimated value
Isobutane (75-28-5)	
BCF fish 1	20 - 52 (Pisces; QSAR)
BCF other aquatic organisms 1	20 - 52 (Daphnia magna; QSAR)
Log Pow	2.8 (Experimental value)
Threshold limit algae 1	1.07 mg/l (Algae)
Threshold limit algae 2	7.15 mg/l (72 h; Algae)
ethanol (64-17-5)	
LC50 fish 1	14200 mg/l (96 h; Pimephales promelas; Nominal concentration)
LC50 fish 2	13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 1	9300 mg/l (48 h; Daphnia magna)
EC50 Daphnia 2	10800 mg/l (24 h; Daphnia magna)
Log Pow	-0.35 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 24 °C)
Threshold limit other aquatic organisms 1	65 mg/l (72 h; Protozoa)
Threshold limit algae 1	1450 mg/l (192 h; Microcystis aeruginosa; Growth rate)
Threshold limit algae 2	5000 mg/l (168 h; Scenedesmus quadricauda; Growth rate)
Propane (74-98-6)	
TLM fish 1	17.8 - 19.7,96 h; Pimephales promelas
Threshold limit algae 1	1.45 - 4.53,72 h; Algae
Threshold limit algae 2	8 mg/l (72 h; Algae)
Butane (106-97-8)	
Log Pow	2.89 (Experimental value)
TLM fish 1	1000 mg/l (96 h; Pisces)
Threshold limit other aquatic organisms 1	0.6 - 0.9,504 h; Daphnia magna
Threshold limit algae 1	0.88 - 1.76,Algae
12.2. Persistence and degradability	
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Persistence and degradability	No additional information available
Dimethyl ether (115-10-6)	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil. Not applicable (gas).
propene (115-07-1)	
Persistence and degradability	Not readily biodegradable in water. Inherently biodegradable. Biodegradable in the soil. Ozonation in the air. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0 g O ₂ /g substance
ThOD	3.43 g O ₂ /g substance
BOD (% of ThOD)	(5 day(s)) 0
Isobutane (75-28-5)	
Persistence and degradability	Inherently biodegradable. Biodegradable in the soil. Not applicable (gas).
ethanol (64-17-5)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.8 - 0.967 g O ₂ /g substance
Chemical oxygen demand (COD)	1.70 g O ₂ /g substance
ThOD	2.10 g O ₂ /g substance
Propane (74-98-6)	
Persistence and degradability	Readily biodegradable in water. Not applicable (gas). Photodegradation in the air.
Butane (106-97-8)	
Persistence and degradability	Readily biodegradable in water.

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12.3. Bioaccumulative potential

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Bioaccumulative potential	No additional information available
Dimethyl ether (115-10-6)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
propene (115-07-1)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Isobutane (75-28-5)	
BCF fish 1	See section 12.1 on ecotoxicology
BCF other aquatic organisms 1	See section 12.1 on ecotoxicology
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
ethanol (64-17-5)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Propane (74-98-6)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Butane (106-97-8)	
Log Pow	See section 12.1 on ecotoxicology
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

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Mobility in soil	No additional information available
Dimethyl ether (115-10-6)	
Surface tension	0.020 N/m (-40 °C)
Log Pow	See section 12.1 on ecotoxicology
propene (115-07-1)	
Surface tension	0.02 N/m (-50 °C)
Log Pow	See section 12.1 on ecotoxicology
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.
Isobutane (75-28-5)	
Surface tension	0.014 N/m (-10 °C)
Log Pow	See section 12.1 on ecotoxicology
ethanol (64-17-5)	
Surface tension	0.0245 N/m (20 °C)
Log Pow	See section 12.1 on ecotoxicology
Propane (74-98-6)	
Surface tension	0.016 N/m (-47 °C)
Butane (106-97-8)	
Surface tension	< 0.1 N/m (0 °C)
Log Pow	See section 12.1 on ecotoxicology

12.5. Other adverse effects

Ozone	Not classified
GWPmix comment	No known effects from this product.
Other adverse effects	No additional information available

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SECTION 13: Disposal information

13.1. Disposal methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	Container under pressure. Do not drill or burn even after use.
Additional information	Flammable vapours may accumulate in the container.

SECTION 14: Transportation information

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

ADR	IMDG	IATA	RID
14.1. UN number			
1950	1950	1950	1950
14.2. UN proper shipping name			
AEROSOLS	AEROSOLS	Aerosols, flammable	AEROSOLS
Transport document description			
UN 1950 AEROSOLS, 2.1, (D)	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
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

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Stowage and segregation (IMDG)	Protected from sources of heat For AEROSOLS with a maximum capacity of 1 litre: Category A. Segregation as for class 9 but 'Separated from' class 1 except division 1.4. For AEROSOLS with a capacity above 1 litre: Category B. Segregation as for the appropriate sub-division of class 2. For WASTE AEROSOLS: Category C. Clear of living quarters. Segregation as for the appropriate sub-division of class 2.
MFAG-No	126
- Air transport	
PCA packing instructions (IATA)	203
PCA max net quantity (IATA)	75kg
Special provisions (IATA)	A145, A167
- Rail transport	
Special provisions (RID)	190, 327, 344, 625
Limited quantities (RID)	1L
Packing instructions (RID)	P207, LP02
Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

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

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Version	23.01
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Full text of H-statements:

Compressed gas	Gases under pressure : Compressed gas
Flam. Aerosol 1	Flammable aerosols, Category 1
Flam. Gas 1	Flammable gases, Category 1
H220	Extremely flammable gas
H222	Extremely flammable aerosol
H280	Contains gas under pressure; may explode if heated

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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