

GC 11

Safety Data Sheet

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

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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 |

1.2. Relevant identified uses of the substance or mixture and uses advised against

| | |
|------------------------------|---|
| Use of the substance/mixture | Gas can for use exclusively with the Hilti GX 100 tool Propellant for direct fastening tools |
|------------------------------|---|

1.3. Details of the supplier of the safety data sheet

| | |
|--|--|
| Supplier Hilti India Private Limited F-90/4, Okhla Industrial Area Phase 1 110 020 New Delhi - India T +9111 4064 6500 +9111 4270 1122 - F +91 405 23318 | 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) +9111 4064 6500 +9111 4270 1122 |
|------------------|---|

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

| | |
|--|-----------|
| Classification according to the United Nations GHS (Rev. 4, 2011) Aerosol 1 Full text of hazard classes and H-statements : see section 16 | H222;H229 |
|--|-----------|

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)

P102 - Keep out of reach of children
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

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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | Classification according to the United Nations GHS |
|----------------|--------------------|----------|--|
| Dimethyl ether | (CAS No) 115-10-6 | 20 - <30 | Flam. Gas 1, H220 Compressed gas, H280 Acute Tox. Not classified (Inhalation:gas) Aquatic Acute Not classified |
| propene | (CAS No) 115-07-1 | 20 - <30 | Pyr. Gas Not classified Flam. Gas 1, H220 Compressed gas, H280 |
| Isobutane | (CAS No) 75-28-5 | 10 - <20 | Flam. Gas 1, H220 Compressed gas, H280 |
| ethanol | (CAS No) 64-17-5 | 10 - <20 | Flam. Liq. 2, H225 Acute Tox. Not classified (Oral) Acute Tox. Not classified (Dermal) Aquatic Acute Not classified |
| Propane | (CAS No) 74-98-6 | 5 - <15 | Flam. Gas 1, H220 Compressed gas, H280 Acute Tox. Not classified (Inhalation:gas) |
| Butane | (CAS No) 106-97-8 | 5 - 10 | Flam. Gas 1, H220 Compressed gas, H280 Acute Tox. Not classified (Inhalation:gas) |

Full text of H-phrases: see section 16

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. |
|------------------------------------|----------------------|

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. |
|-------------|------------------------------|

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| | |
|------------------|---|
| Explosion hazard | Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. |
|------------------|---|

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Precautionary measures fire | Fight fire remotely due to the risk of explosion. |
| 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. |
|------------------|---|

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. |
| Storage temperature | 5 - 25 °C |
| Heat and ignition sources | Keep away from heat and direct sunlight. |
| Prohibitions on mixed storage | Do not store with DX powder cartridges. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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| | |
|----------------------|-------------------------|
| 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 |
|-------------|--------------------|

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat. Sparks. Open flame. Direct sunlight. Overheating.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|-----------------------|----------------|
| Acute toxicity (oral) | 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 |

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| | |
|--|----------------|
| 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 |

| | |
|--------------|---------|
| GC 11 | |
| Vaporizer | Aerosol |

SECTION 12: Ecological information

12.1. Toxicity

| | |
|---|---|
| Dimethyl ether (115-10-6) | |
| LC50 fish 1 | 3082 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss) |
| EC50 Daphnia 1 | 756.2 mg/l (48 h; Daphnia magna) |
| LC50 fish 2 | > 1000 mg/l (96 h; Pisces) |
| EC50 Daphnia 2 | > 4400 mg/l (48 h; Daphnia magna) |
| Threshold limit algae 1 | 154.9 mg/l (96 h; Algae) |
| propene (115-07-1) | |
| Threshold limit algae 1 | 3 - 15, Algae; QSAR |
| Threshold limit algae 2 | 10 - 100, Algae; Estimated value |
| Isobutane (75-28-5) | |
| 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) |
| EC50 Daphnia 1 | 9300 mg/l (48 h; Daphnia magna) |
| LC50 fish 2 | 13000 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss) |
| EC50 Daphnia 2 | 10800 mg/l (24 h; Daphnia magna) |
| 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) | |
| 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

| | |
|----------------------------------|---|
| 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. |

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|---------------------------------|---|
| 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. |

12.3. Bioaccumulative potential

| | |
|----------------------------------|--|
| Dimethyl ether (115-10-6) | |
| Log Pow | 0.10 (Experimental value; 0.07; QSAR; KOWWIN; 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| | |
|---------------------------|--|
| propene (115-07-1) | |
| Log Pow | 1.77 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

| | |
|-------------------------------|--|
| 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) |
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

| | |
|---------------------------|--|
| ethanol (64-17-5) | |
| Log Pow | -0.35 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 24 °C) |
| 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 | 2.89 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

12.4. Mobility in soil

| | |
|----------------------------------|--------------------|
| Dimethyl ether (115-10-6) | |
| Surface tension | 0.020 N/m (-40 °C) |

| | |
|---------------------------|---|
| propene (115-07-1) | |
| Surface tension | 0.02 N/m (-50 °C) |
| Ecology - soil | May be harmful to plant growth, blooming and fruit formation. |

| | |
|----------------------------|--------------------|
| Isobutane (75-28-5) | |
| Surface tension | 0.014 N/m (-10 °C) |

| | |
|--------------------------|--------------------|
| ethanol (64-17-5) | |
| Surface tension | 0.0245 N/m (20 °C) |

| | |
|--------------------------|--------------------|
| Propane (74-98-6) | |
| Surface tension | 0.016 N/m (-47 °C) |

| | |
|--------------------------|------------------|
| Butane (106-97-8) | |
| Surface tension | < 0.1 N/m (0 °C) |

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|---|
| Regional legislation (waste) | Disposal must be done according to official regulations. |
| 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. |





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SECTION 14: Transport 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 |
| 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 |
|---------------------------------|-----|

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|-----------------------------|--------------------|
| 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

SECTION 16: Other information

Full text of H-statements:

| | |
|------|--|
| H220 | Extremely flammable gas |
| H225 | Highly flammable liquid and vapour |
| 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