

# GC 22

## Safety Data Sheet

According to SS 586 Part 3 (2022)  
Issue date: 7/4/2025

Revision date: 7/4/2025

Supersedes: 14/12/2022

Version: 26.0

### SECTION 1: Identification

#### 1.1. Product identifier

Name GC 22  
Product code BU Direct Fastening  
Product form Mixture



#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical and restrictions on use

Recommended uses and restrictions

Recommended use For professional use only, Propellant for direct fastening tools.

#### 1.4. Supplier's details

##### Supplier

Hilti Far East Private Ltd.  
80 Pasir Panjang Road, #16-83/84 Mapletree Business City Singapore  
Singapore 117372  
T +65 6777 7887 - F +65 6777 3057  
[sg-customerservice@hilti.com](mailto:sg-customerservice@hilti.com)

##### Department issuing data specification sheet

Hilti AG  
Feldkircherstraße 100 Schaan Liechtenstein 9494  
T +423 234 2111  
[product.compliance-direct.fastening@hilti.com](mailto:product.compliance-direct.fastening@hilti.com)

#### 1.5. Emergency phone number

Emergency number GBK GmbH Global Regulatory Compliance  
+49 (0)6132-84463

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

Physical hazards Flammable gases, Category 1A  
Gases under pressure : Compressed gas

#### 2.2. GHS label elements, including precautionary statements

##### Hazard pictograms (GHS SG)



##### Signal word (GHS SG)

Danger

##### Hazard statements (GHS SG)

H220 : Extremely flammable gas  
H280 : Contains gas under pressure; may explode if heated

##### Precautionary statements

###### General

P102 : Keep out of reach of children.

###### Prevention

P210 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, open flames, sparks  
P211 : Do not spray on an open flame or other ignition source.  
P251 : Do not pierce or burn, even after use.

###### Response

P381 : In case of leakage, eliminate all ignition sources.

###### Storage

P403 : Store in a well-ventilated place.  
P410+P412 : Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

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### 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

### 3.2. Mixtures

Name	Synonyms	Concentration (%)	Formula	Product identifier
isobutane	-	55 - <65	C4H10	CAS-No.: 75-28-5 EC-No.: 200-857-2 EC Index-No.: 601-004-00-0
propene	-	20 - <30	C3H6	CAS-No.: 115-07-1 EC-No.: 204-062-1 EC Index-No.: 601-011-00-9
Propane	-	5 - <15	C3H8	CAS-No.: 74-98-6 EC-No.: 200-827-9 EC Index-No.: 601-003-00-5

## SECTION 4: First-aid measures

### 4.1. Description of necessary first aid measures

First-aid measures general	Take off immediately all contaminated clothing.
Inhalation	Remove person to fresh air and keep comfortable for breathing.
Skin contact	Gently wash with plenty of soap and water.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
Ingestion	Immediately consult a doctor/medical service.

### 4.2. Most important symptoms/effects, acute and delayed

No additional information available

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	Treat symptomatically.
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## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Suitable extinguishing media	Carbon dioxide. Water spray. Dry powder. Alcohol resistant foam.
Unsuitable extinguishing media	Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Explosion hazard	Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Hazardous decomposition products in case of fire	On burning: release of (highly) toxic gases/vapours. Thermal decomposition generates : Carbon dioxide. Carbon monoxide.

### 5.3. Special protective actions for fire fighters

Precautionary measures fire	Fight fire remotely due to the risk of explosion.
Firefighting instructions	DO NOT fight fire when fire reaches explosives. Evacuate area.

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Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.
Other information	EN 12942. EN 12941.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	Evacuate area. Remove ignition sources.
<b>6.1.1. For non-emergency personnel</b>	
Emergency procedures	Ventilate spillage area. Evacuate area. No open flames, no sparks, and no smoking.
<b>6.1.2. For emergency responders</b>	
Protective equipment	Do not attempt to take action without suitable protective equipment. Breathing apparatus.

#### 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.
Other information	For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed	Flammable gas. Do not pierce or burn, even after use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Precautions for safe handling	Do not spray on an open flame or other ignition source. Avoid contact with skin, eyes and clothing. Do not breathe vapours. Prevent the build-up of electrostatic charge.
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. Keep in fireproof place. Store in dry protected location to prevent any moisture contact.
Incompatible materials	Heat sources. Direct sunlight. Sources of ignition.
Storage temperature	5 – 25 °C
Heat and ignition sources	Keep away from heat and direct sunlight. Keep away from ignition sources.
Information on mixed storage	Do not store with DX powder cartridges.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters/Occupational exposure limits

propene (115-07-1)	
Singapore - Occupational Exposure Limits	
Local name	1,3-Dichloropropene
PEL (OEL TWA)	4.5 mg/m³
	1 ppm
Regulatory reference	WSH Regulations 2014

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Propane (74-98-6)	
Singapore - Occupational Exposure Limits	
Local name	Glycidol (2,3-Epoxy-1-propanol)
PEL (OEL TWA)	76 mg/m <sup>3</sup>
	25 ppm
Regulatory reference	WSH Regulations 2014

### 8.2. Appropriate engineering control measures

Appropriate engineering controls      Ensure good ventilation of the work station.

### 8.3. Personal protection – individual protection measures, such as personal protective equipment (PPE)

Hand protection      Hand protection in accordance with the operating instructions for the tool  
 Eye protection      Chemical goggles or safety glasses. ISO 16321-1. EN 170  
 Skin and body protection      When using cartridge operated tools, sufficient ear protection must be worn.  
 Respiratory protection      No respiratory protection needed under normal use conditions

#### Personal protective equipment symbol(s)



Consumer exposure controls

No additional information available.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Gas
Colour	Colourless
Odour	Sweet
Odour threshold	Not available
pH	Not available
Melting point	Not available
Freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point	Not available
Evaporation rate	Not available
Flammability	Extremely flammable gas.
Explosive limits	1.7 – 11.1 vol % Explosive properties: Product is not explosive. In use, may form flammable/explosive vapour-air mixture.
Vapour pressure	8300 hPa
Relative vapour density at 20°C	Not available
Density	0.6 g/cm <sup>3</sup> (DIN 51757)
Relative density	Not available
Solubility	insoluble in water.
Partition coefficient n-octanol/water (Log Kow)	Not available
Partition coefficient n-octanol/water (Log Pow)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity, kinematic	Not available
Particle size	Not available
Particle size distribution	Not available
Particle shape	Not available
Particle aspect ratio	Not available

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Particle specific surface area

Not available

### 9.2. Other information

Gas group

Gases under pressure : Compressed gas

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Extreme risk of explosion by shock, friction, fire or other sources of ignition.

### 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

No additional information available

## SECTION 11: Toxicological information

### 11.1. Acute toxicity

Acute toxicity (oral)

Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (dermal)

Not classified (Based on available data, the classification criteria are not met)

Acute toxicity (inhalation)

Not classified (Based on available data, the classification criteria are not met)

isobutane (75-28-5)	
LC50 Inhalation - Rat [ppm]	> 18000 ppm
propene (115-07-1)	
LC50 Inhalation - Rat	> 688 mg/m <sup>3</sup>
Propane (74-98-6)	
LC50 Inhalation - Rat [ppm]	> 280000 ppm (literature)
Skin corrosion or irritation	Not classified (Based on available data, the classification criteria are not met)
Serious eye damage or irritation	Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation	Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	Not applicable
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Vaporizer	Container fitted with a sealed spray attachment
Density	0.6 g/cm <sup>3</sup> (DIN 51757)

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Potential adverse human health effects and symptoms

No additional information available.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	Due to the consistency along with the low water solubility of the product a bioavailability is unlikely.
Hazardous to the aquatic environment, short-term (acute)	Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic)	Not classified (Based on available data, the classification criteria are not met)
Other information	Avoid release to the environment.

isobutane (75-28-5)	
LC50 - Fish [1]	24.11 – 147.54 mg/l (Quantitative structure-activity relationship (QSAR))
EC50 - Crustacea [1]	7.02 – 69.43 mg/l (Quantitative structure-activity relationship (QSAR))
ErC50 algae	7.71 – 16.5 mg/l (Quantitative structure-activity relationship (QSAR))
Partition coefficient n-octanol/water (Log Pow)	1.09 – 2.8 (20 °C)
propene (115-07-1)	
LC50 - Fish [1]	43.3 mg/l (72 h; Oncorhynchus mykiss (Rainbow trout); Quantitative structure-activity relationship (QSAR))
EC50 - Crustacea [1]	28.2 mg/l (48 h; daphnia; Quantitative structure-activity relationship (QSAR))
EC50 96h - Algae [1]	12.1 mg/l (algae; Quantitative structure-activity relationship (QSAR))
Partition coefficient n-octanol/water (Log Kow)	1.77 (20 °C)

#### 12.2. Persistence and degradability

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Persistence and degradability	Rapidly degradable
isobutane (75-28-5)	
Persistence and degradability	Readily biodegradable.
propene (115-07-1)	
Persistence and degradability	Readily biodegradable in water.
Propane (74-98-6)	
Persistence and degradability	Readily biodegradable in water.

#### 12.3. Bioaccumulative potential

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Bioaccumulative potential	No additional information available
isobutane (75-28-5)	
Partition coefficient n-octanol/water (Log Pow)	1.09 – 2.8 (20 °C)
Bioaccumulative potential	Bioaccumulation unlikely.
propene (115-07-1)	
Partition coefficient n-octanol/water (Log Kow)	1.77 (20 °C)

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Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).
<b>Propane (74-98-6)</b>	
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

### 12.4. Mobility in soil

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Mobility in soil	No additional information available
<b>isobutane (75-28-5)</b>	
Partition coefficient n-octanol/water (Log Pow)	1.09 – 2.8 (20 °C)
<b>propene (115-07-1)</b>	
Partition coefficient n-octanol/water (Log Kow)	1.77 (20 °C)

### 12.5. Other adverse effects




Ozone	Not classified (Based on available data, the classification criteria are not met)
Other adverse effects	No additional information available

## SECTION 13: Disposal considerations

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

## SECTION 14: Transport information

In accordance with IMDG / IATA / UN RTDG

IMDG	IATA	UNRTDG
<b>14.1. UN number</b>		
3150	3150	3150
<b>14.2. UN proper shipping name</b>		
HYDROCARBON GAS REFILLS FOR SMALL DEVICES	Hydrocarbon gas Refills for small devices	HYDROCARBON GAS REFILLS FOR SMALL DEVICES
<b>Transport document description</b>		
UN 3150 HYDROCARBON GAS REFILLS FOR SMALL DEVICES, 2.1	UN 3150 Hydrocarbon gas Refills for small devices, 2.1	UN 3150 HYDROCARBON GAS REFILLS FOR SMALL DEVICES, 2.1
<b>14.3. Transport hazard class</b>		
2.1	2.1	2.1
		
<b>14.4. Packing group, if applicable</b>		
Not applicable	Not applicable	Not applicable

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14.5. Environmental hazards		
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 users

<b>UN RTDG</b>		
Limited quantities (UN RTDG)	0	
Excepted quantities (UN RTDG)	E0	
Packing instruction (UN RTDG)	P003	
<b>IMDG</b>		
Limited quantities (IMDG)	0	
Excepted quantities (IMDG)	E0	
Packing instructions (IMDG)	P003	
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)	B	
Stowage and handling (IMDG)	SW2	
Properties and observations (IMDG)	Various small devices used for cosmetic and other purposes, and their refills.	
MFAG-No	115	
<b>IATA</b>		
PCA Excepted quantities (IATA)	E0	
PCA Limited quantities (IATA)	Forbidden	
PCA limited quantity max net quantity (IATA)	Forbidden	
PCA packing instructions (IATA)	201	
PCA max net quantity (IATA)	1kg	
CAO packing instructions (IATA)	201	
CAO max net quantity (IATA)	15kg	
Special provisions (IATA)	A802	
ERG code (IATA)	10L	

### 14.7. Transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations specific for the product in question

Regulation	Component / Mixture	
Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations	Applicable	isobutane; propene; Propane
Arms and Explosives Act	Not applicable	
Chemical Weapons Prohibition Act	Not applicable	
Environmental Protection and Management (Air Impurities) Regulations	Not applicable	
Environmental Protection and Management Act (Hazardous Substances)	Not applicable	
Environmental Public Health (Quality of Piped Drinking Water) Regulations	Not applicable	
Fire Safety Act/Fire Safety (Petroleum and Flammable Materials) Regulations	Petroleum and Flammable Materials	Isobutane; Propylene; Propane

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Maritime and Port Authority of Singapore (Dangerous, Petroleum and Explosives) Regulations	Maritime and Port Authority-Dangerous Goods	Isobutane; Propylene; Propane
Misuse of Drugs Act	Not applicable	
Poisons Act	Not applicable	
Poisons Rules	Not applicable	
Hazardous waste (Control of export, import and transit) Act	Not applicable	
Strategic goods (Control) Act	Not applicable	

### 15.2. International regulations

No additional information available

## SECTION 16: Other information

Issue date	7/4/2025
Revision date	7/4/2025
Supersedes	14/12/2022
Data sources	European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a> . manufacturer.
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 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008 DNEL - Derived-No Effect Level EC50 - Median effective concentration ED - Endocrine disruptor EC-No. - European Community number EN - European Standard IATA - International Air Transport Association IMDG - International Maritime Dangerous Goods IOELV - Indicative Occupational Exposure Limit Value LC50 - Median lethal concentration LD50 - Median lethal dose NOEC - No-Observed Effect Concentration OECD - Organisation for Economic Co-operation and Development N.O.S. - Not Otherwise Specified OEL - Occupational Exposure Limit PBT - Persistent Bioaccumulative Toxic PNEC - Predicted No-Effect Concentration REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail SDS - Safety Data Sheet STP - Sewage treatment plant TLM - Median Tolerance Limit TRGS - Technical Rules for Hazardous Substances VOC - Volatile Organic Compounds WGK - Water Hazard Class vPvB - Very Persistent and Very Bioaccumulative NOAEL - No-Observed Adverse Effect Level NOAEC - No-Observed Adverse Effect Concentration LOAEL - Lowest Observed Adverse Effect Level

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Training advice

Department issuing data specification sheet.

Indication of changes		
Section	Changed item	Comments
	General	Modified
8	Personal protective equipment	Modified Hand protection
15	Regulatory information	Added

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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.