

GC 22

Safety Data Sheet

according to ICOP 2014,2019

Issue date: 31/03/2023

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Supersedes: 28/11/2017

Version: 24.00

SECTION 1: Identification of the hazardous chemical and of the supplier

1.1. Product identifier

Name

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1.2. Other means of identification

Product code

BU Direct Fastening

1.3. Recommended use of the chemical and restrictions on use

Recommended use

For professional use only
Propellant for direct fastening tools.

1.4. Supplier details

Supplier

Hilti (Malaysia) Sdn. Bhd.
F-5-A, Sime Darby Brunfield Tower, No. 2, Jalan PJU 1A/7A
Oasis Square, Oasis Damansara
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

1.5. Emergency phone 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 hazardous chemical

Classification according to Industry Code of Practice on chemicals classification and hazard communication (2019)

Flammable gases, Category 1

H220

Gases under pressure : Compressed gas

H280

2.2. Label elements

Labelling according to Industry Code of Practice on chemicals classification and hazard communication (2019)

Hazard pictograms (GHS MY)



Signal word (GHS MY)

Danger

Hazard statements (GHS MY)

H220 - Extremely flammable gas

H280 - Contains gas under pressure; may explode if heated

Precautionary statements (GHS MY)

P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking

P211 - Do not spray on an open flame or other ignition source

P251 - Pressurized container: Do not pierce or burn, even after use

P381 - Eliminate all ignition sources if safe to do so

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 that do not result in classification

No additional information available

SECTION 3: Composition and information of the ingredients of the hazardous chemical

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Industry Code of Practice on chemicals classification and hazard communication (2019)
isobutane	CAS-No.: 75-28-5	55 - <65	Flam. Gas 1, H220 Press. Gas (Comp.), H280
propene	CAS-No.: 115-07-1	20 - <30	Flam. Gas 1, H220 Press. Gas (Comp.), H280
Propane	CAS-No.: 74-98-6	5 - <15	Flam. Gas 1, H220 Press. Gas (Comp.), H280

SECTION 4: First-aid measures

4.1. Description of necessary first aid measures

First-aid measures general	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.
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 medical advice/attention.
First-aid measures after 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. Physicochemical 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 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. Self-contained breathing apparatus.
EAC code	2YE
Other information	EN 12942. EN 12941.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

General measures	Evacuate area. Remove ignition sources.
6.1.1. For non-emergency personnel	
Emergency procedures	Ventilate spillage area. Evacuate area. No open flames, no sparks, and no smoking.
6.1.2. For emergency responders	
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 materials for containment and cleaning up

Methods for cleaning up	Do not flush with water.
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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.
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.
Storage temperature	5 – 25 °C

SECTION 8: Exposure controls and personal protection

8.1. Control parameters

GC 22	
Malaysia - Occupational Exposure Limits	
Local name	Propana # Propane
PEL (OEL TWA) [2]	2500 ppm
MEL (ppm)	7500 ppm
Propane (74-98-6)	
Malaysia - Occupational Exposure Limits	
Local name	Propana # Propane
PEL (OEL TWA) [2]	2500 ppm
MEL (ppm)	7500 ppm

Exposure limit values for the other components

No additional information available

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Decomposition temperature	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.
Density	0.6 g/cm ³ (DIN 51757)
Gas group	Gases under pressure : Compressed gas

SECTION 10: Stability and reactivity

Reactivity	No data available
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
Possibility of hazardous reactions	No data available
Conditions to avoid	Heat, Sparks, Open flame, Direct sunlight, Overheating
Incompatible materials	No data available
Hazardous decomposition products	No data available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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 ³
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 eye irritation	Not classified (Based on available data, the classification criteria are not met)
Respiratory sensitization	Not classified (Based on available data, the classification criteria are not met)
Skin sensitization	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)
Specific target organ toxicity (STOT) – single exposure	Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (STOT) – repeated exposure	Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	Not classified (Based on available data, the classification criteria are not met)

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Vaporizer	Container fitted with a sealed spray attachment

Potential adverse human health effects and symptoms	No additional information available.
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SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general	Due to the consistency along with the low water solubility of the product a bioavailability is unlikely.
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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))
Partition coefficient n-octanol/water (Log Kow)	1.77 (20 °C)

12.2. Persistence and degradability

GC 22	
Persistence and degradability	No additional information available
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

GC 22	
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)
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).
Propane (74-98-6)	
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

12.4. Mobility in soil

GC 22	
Mobility in soil	No additional information available
isobutane (75-28-5)	
Partition coefficient n-octanol/water (Log Pow)	1.09 – 2.8 (20 °C)
propene (115-07-1)	
Partition coefficient n-octanol/water (Log Kow)	1.77 (20 °C)

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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 information

13.1. Disposal methods

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: Transportation information

In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
UN 3150	UN 3150	UN 3150	UN 3150
14.2. UN proper shipping name			
HYDROCARBON GAS REFILLS FOR SMALL DEVICES	HYDROCARBON GAS REFILLS FOR SMALL DEVICES	Hydrocarbon gas Refills for small devices	HYDROCARBON GAS REFILLS FOR SMALL DEVICES
Transport document description			
UN 3150 HYDROCARBON GAS REFILLS FOR SMALL DEVICES, 2.1, (D)	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
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)	6F
Limited quantities (ADR)	0
Excepted quantities (ADR)	E0
Packing instructions (ADR)	P209
Mixed packing provisions (ADR)	MP9
Transport category (ADR)	2
Special provisions for carriage - Loading, unloading and handling (ADR)	CV9
Special provisions for carriage - Operation (ADR)	S2
Tunnel restriction code (ADR)	D

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EAC code 2YE

Transport by sea

Limited quantities (IMDG) 0
 Excepted quantities (IMDG) E0
 Packing instructions (IMDG) P003
 EmS-No. (Fire) F-D
 EmS-No. (Spillage) S-U
 Stowage category (IMDG) B
 Stowage and handling (IMDG) SW2
 MFAG-No 115

Air transport

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

Rail transport

Classification code (RID) 6F
 Limited quantities (RID) 0
 Excepted quantities (RID) E0
 Packing instructions (RID) P209
 Mixed packing provisions (RID) MP9
 Transport category (RID) 2
 Special provisions for carriage - Loading, unloading and handling (RID) CW9
 Colis express (express parcels) (RID) CE2
 Hazard identification number (RID) 23

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental regulations specific for the hazardous chemical in question

Regulation	Component/ Mixture
EHS Notification and Registration Scheme	
Environmental Quality (Chlorofluorocarbons Prohibition) Order 1993	Not applicable GC 22
Environmental Quality (Industrial Effluent) Regulations 2009	GC 22
Environmental Quality (Scheduled Wastes) Regulations 2007	GC 22
Control of Industrial Major Accident Hazards Regulations 1996	GC 22
Prohibition of Use of Substance Order 1999	GC 22

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Use and Standards of Exposure of Chemical Hazardous to Health Regulations 2000		GC 22
Chemical Weapons Convention Act		GC 22
Corrosive and Explosive Substances and Offensive Weapons Act		GC 22
Dangerous Drugs Act		GC 22
Pesticides Act		GC 22
Petroleum (Safety Measures) Act	List of petroleum	Propane
Poisons Act 1952	Not applicable	GC 22
Poisons (Psychotropic Substances) Regulations 1989		GC 22

15.2. International agreements

No additional information available

SECTION 16: Other information

Version	24.00
Issue date	31/3/2023
Revision date	31/03/2023
Supersedes	28/11/2017

Indication of changes			
Section	Changed item	Change	Comments
	General		
1.2	Use of the substance/mixture	Added	
2.2	Hazard pictograms (GHS MY)	Added	
2.2	Precautionary statements (GHS MY)	Modified	
8	Personal protective equipment	Modified	
8.1	Binding Occupational Exposure Limit	Added	
11	Toxicological information	Modified	
12.	Ecotoxicological information	Modified	
15	Regulatory information	Added	

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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 disrupting properties
 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
 Department issuing data specification sheet.

Training advice

Full text of H-statements	
Flam. Gas 1	Flammable gases, Category 1
Press. Gas (Comp.)	Gases under pressure : Compressed gas
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated

SDS MY HILTI

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.