GC FX 3

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 12/12/2022 Revision date: 12/12/2022 Supersedes version of: 08/04/2020 Version: 2.0

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

1.1. Product identifier

Product form	Mixture
Name	GC FX 3
Product code	BU Direct Fastening

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	For professional use only
Use of the substance/mixture	Gas can for use exclusively with the Hilti FX 3-A tool.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
Hilti (Fastening Systems) Limited
Unit C4 North City Business Park, Finglas
IE– 11 Dublin
Irland
T +353 188 64101
1850-287 387 Call Save - F +353 183 03569
iesales@hilti.com

Department issuing data specification sheet
Hilti Entwicklungsgesellschaft mbH
Hiltistrasse 6
DE– 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)
+353 188 64101
1850-287 387 Call Save

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Gases under pressure : Compressed gas H280

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)

	GHS04
Signal word (CLP)	Warning
Hazard statements (CLP)	H280 - Contains gas under pressure; may explode if heated.
Precautionary statements (CLP)	P251 - Do not pierce or burn, even after use. P402 - Store in a dry place. P403 - Store in a well-ventilated place. P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Extra phrases	Asphyxiant in high concentrations.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Carbon dioxide (124-38-9)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
Carbon dioxide(124-38-9)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
argon	CAS-No.: 7440-37-1 EC-No.: 231-147-0	≥ 80	Press. Gas (Comp.), H280
Carbon dioxide	CAS-No.: 124-38-9 EC-No.: 204-696-9	10 – 25	Press. Gas (Liq.), H280

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	Asphyxiant in high concentrations. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness.Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. Low concentrations of CO2 cause increased respiration and headache.
First-aid measures after skin contact	Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash skin with plenty of water.
First-aid measures after eye contact	Rinse immediately with plenty of water. Rinse eyes with water as a precaution.

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, both acute and delayed

Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	Respiratory complaints.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is non-combustible. Use extinguishing agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

Explosion hazard	Contains gas under pressure; may explode if heated.

5.3. Advice for firefighters

Firefighting instructions	In case of fire: stop leak if safe to do so. Continue water spray from protected position until container stays cool.
Protection during firefighting	Wear recommended personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	Evacuate area. Ventilate spillage area.

6.1.2. For emergency responders

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Provide adequate ventilation.

6.4. Reference to other sections

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

Precautions for safe handling	Ensure good ventilation of the work station. Pressurized container: Do not pierce or burn, even after use. Damaged cylinders should be handled by specialists only. Carefully comply with the instructions for use.
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

Storage conditions	Store at temperatures not exceeding 50 °C. Protect from sunlight. Store in a well-ventilated place. Keep cool. Store in a dry place.
Incompatible products	Strong acids. Strong bases. Combustible materials.
Incompatible materials	Sources of ignition. Direct sunlight. Heat sources.

Storage temperature -20 – 50 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

Carbon dioxide (124-38-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Carbon dioxide
IOEL TWA	9000 mg/m³
IOEL TWA [ppm]	5000 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Ireland - Occupational Exposure Limits	
Local name	Carbon dioxide
OEL TWA [1]	9000 mg/m³
OEL TWA [2]	5000 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021

argon (7440-37-1)	
Ireland - Occupational Exposure Limits	
Local name	Argon
Remark	Asphx. (Gaseous chemical substances which may not produce significant physiological effects in the exposed employee, but when present in high concentrations will act as simple asphyxiants)
Regulatory reference	Chemical Agents Code of Practice 2021

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Systems under pressure should be regularly checked for leakages.

8.2.2. Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure.

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection			
Type	**Field of application**	**Characteristics**	**Standard**
Safety glasses		clear	EN 166, EN 170

8.2.2.2. Skin protection

Hand protection:
Not required for normal conditions of use

8.2.2.3. Respiratory protection

Respiratory protection:
Keep self contained breathing apparatus readily available for emergency use.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
No specific measures are required provided the product is handled in accordance with the general rules of occupational hygiene and safety. Avoid release to the environment.

Consumer exposure controls:
Avoid contact during pregnancy/while nursing.

Other information:
Do not eat, drink or smoke during use.
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	odourless.
Odour threshold	Not available
Melting point	Not applicable
Freezing point	Not applicable
Boiling point	Not available
Flammability	Non flammable.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.
Explosive limits	Not available
Lower explosion limit	Not available
Upper explosion limit	Not available
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available

pH	Not applicable
Viscosity, kinematic	Not applicable
Solubility	No data available.
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Vapour pressure at 50°C	Not available
Density	Not applicable
Relative density	Not applicable
Relative vapour density at 20°C	Not available
Particle characteristics	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Gas group	Gases under pressure : Compressed gas
Other properties	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

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

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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)
Skin corrosion/irritation	Not classified (Based on available data, the classification criteria are not met) pH: Not applicable
Serious eye damage/irritation	Not classified (Based on available data, the classification criteria are not met) pH: Not applicable
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 classified (Based on available data, the classification criteria are not met)

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties	No additional information available

11.2.2. Other information

Potential adverse human health effects and symptoms	No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
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)

Carbon dioxide (124-38-9)	
LC50 - Fish [1]	35 mg/l (96 h; Salmo gairdneri; Literature data)

12.2. Persistence and degradability

GC FX 3	
Persistence and degradability	Not established.

Carbon dioxide (124-38-9)	
Persistence and degradability	Not applicable.

argon (7440-37-1)	
Persistence and degradability	Not applicable.

12.3. Bioaccumulative potential

Carbon dioxide (124-38-9)	
Partition coefficient n-octanol/water (Log Pow)	0.83 (Measured)

argon (7440-37-1)	
Partition coefficient n-octanol/water (Log Pow)	0.74 (Measured)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	Dispose in a safe manner in accordance with local/national regulations.
European List of Waste (LoW) code	16 05 05 - gases in pressure containers other than those mentioned in 16 05 04

SECTION 14: Transport information

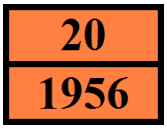
In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1956	UN 1956	UN 1956	UN 1956	UN 1956
14.2. UN proper shipping name				
COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide mixture)	COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide mixture)	Compressed gas, n.o.s. (Argon, Carbon dioxide mixture)	COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide mixture)	COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide mixture)
Transport document description				
UN 1956 COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide mixture), 2.2, (E)	UN 1956 COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide mixture), 2.2	UN 1956 Compressed gas, n.o.s. (Argon, Carbon dioxide mixture), 2.2	UN 1956 COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide mixture), 2.2	UN 1956 COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide mixture), 2.2
14.3. Transport hazard class(es)				
2.2	2.2	2.2	2.2	2.2
				
14.4. Packing group				
Not applicable	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	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	1A
Special provisions (ADR)	274, 378, 392
Limited quantities (ADR)	120ml
Excepted quantities (ADR)	E1
Packing instructions (ADR)	P200
Mixed packing provisions (ADR)	MP9
Portable tank and bulk container instructions (ADR)	(M)
Tank code (ADR)	CxBN(M)
Tank special provisions (ADR)	TA4, TT9
Vehicle for tank carriage	AT
Transport category (ADR)	3

Special provisions for carriage - Loading, unloading and handling (ADR)	CV9, CV10, CV36
Hazard identification number (Kemler No.)	20
Orange plates	
Tunnel restriction code (ADR)	E

Transport by sea

Special provisions (IMDG)	274, 378, 392
Limited quantities (IMDG)	120 ml
Excepted quantities (IMDG)	E1
Packing instructions (IMDG)	P200
EmS-No. (Fire)	F-C
EmS-No. (Spillage)	S-V
Stowage category (IMDG)	A
MFAG-No	126

Air transport

PCA Excepted quantities (IATA)	E1
PCA Limited quantities (IATA)	Forbidden
PCA limited quantity max net quantity (IATA)	Forbidden
PCA packing instructions (IATA)	200
PCA max net quantity (IATA)	75kg
CAO packing instructions (IATA)	200
CAO max net quantity (IATA)	150kg
Special provisions (IATA)	A202
ERG code (IATA)	2L

Inland waterway transport

Classification code (ADN)	1A
Special provisions (ADN)	274, 378, 392, 655, 662
Limited quantities (ADN)	120 ml
Excepted quantities (ADN)	E1
Equipment required (ADN)	PP
Number of blue cones/lights (ADN)	0

Rail transport

Classification code (RID)	1A
Special provisions (RID)	274, 378, 392, 655, 662
Limited quantities (RID)	120ml
Excepted quantities (RID)	E1
Packing instructions (RID)	P200
Mixed packing provisions (RID)	MP9
Portable tank and bulk container instructions (RID)	(M)
Tank codes for RID tanks (RID)	CxBN(M)
Special provisions for RID tanks (RID)	TA4, TT9
Transport category (RID)	3
Special provisions for carriage - Loading, unloading and handling (RID)	CW9, CW10, CW36
Colis express (express parcels) (RID)	CE3
Hazard identification number (RID)	20

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes			
Section	**Changed item**	**Change**	**Comments**
	General	Modified	SDS EU format according to COMMISSION REGULATION (EU) 2020/878
2.2	Labelling according to Regulation (EC) No. 1272/2008 [CLP]	Modified	
8.2	Personal protective equipment	Modified	
12.	Ecotoxicological information	Modified	
15	Regulatory information	Added	

Abbreviations and acronyms:	
CAS-No.	Chemical Abstract Service number

Abbreviations and acronyms:	
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

Data sources Source: European Chemicals Agency, http://echa.europa.eu/. manufacturer.

Full text of H- and EUH-statements:	
H280	Contains gas under pressure; may explode if heated.

Full text of H- and EUH-statements:	
Press. Gas (Comp.)	Gases under pressure : Compressed gas
Press. Gas (Liq.)	Gases under pressure : Liquefied gas

SDS EU 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.