

# DX-Cartridge

## Safety Data Sheet

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

Issue date: 04/06/2024

Revision date: 04/06/2024

Version: 1.0

### SECTION 1: Identification

#### 1.1. GHS Product identifier

Product form	Article
Name	DX-Cartridge
UN-No. (ADR)	0323
Product code	BU Direct Fastening

#### 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	For professional use only
Recommended use	CARTRIDGES FOR TOOLS, BLANK

#### 1.4. Supplier's details

##### Supplier

Hilti Bahrain W.L.L  
Warehouse No. 23 & 25, Gate 285, Road 4306  
Area 343, Mina Salman  
P.O. Box 11401  
BH Manama, Bahrain  
T +973 17811675  
[hiltibahrain@hilti.com](mailto:hiltibahrain@hilti.com), <https://www.hilti-me.com/>

##### Department issuing data specification sheet

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

#### 1.5. Emergency phone number

Emergency number	Emergency CONTACT (24-Hour-Number): GBK GmbH Global Regulatory Compliance +49 (0)6132-84463
------------------	---

### SECTION 2: Hazard identification

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

##### Classification according to the United Nations GHS

Explosives, Category 2A	H209	Expert judgement
Full text of H-statements: see section 16		

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

##### Labelling according to the United Nations GHS

Hazard pictograms (GHS UN)



Signal word (GHS UN)  
Hazard statements (GHS UN)  
Precautionary statements (GHS UN)

Danger  
H209 - Explosive  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.  
No smoking.  
P250 - Do not subject to shock, friction, grinding.  
P280 - Wear eye protection.  
P370+P380+P375 - In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

# DX-Cartridge

## Safety Data Sheet

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

P372 - Explosion risk.  
P401 - Store in accordance with local regulations on explosives.

### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification      This article contains hazardous substances or preparations not intended to be released under normal or reasonably foreseeable conditions of use., The dismantling of the article is prohibited!, Keep away from ignition sources (including static discharges)

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Comments

max. net explosives weight each cartridge in mg:  
Caliber 6.8/18 (cal .27 long) green: 190; yellow: 220; blue: 300; red: 330; black: 410  
Caliber 5.5/16 (cal .22) grey: 105; brown: 120; green: 175; yellow: 210; red: 270  
Within the cartridges the explosive ingredients (gun powder and priming composition) are hermetically separated from the environment. They will be only opened with effort and under destruction of the article.  
Propellant powder: glycerol trinitrate containing nitrocellulose powder  
Mass per cartridge: essentially dependent on the required power (100-400 mg)  
Exposed propellant powder outside a cartridge is harmful if swallowed and highly flammable; without tamping no explosion risk.  
Packed safety cartridges don't represent a significant risk.  
In case of reaction no dangerous fragments or projectiles will be formed.  
Mechanical or thermal attempts to expose the primer composition lead to an immediate reaction of the dangerous ingredients.

Name	Product identifier	%	Classification according to the United Nations GHS
glycerol trinitrate	CAS-No.: 55-63-0	7 – 25	Expl. 1, H209;H210 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 STOT RE 2, H373 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
cellulose nitrate	CAS-No.: 9004-70-0	7 – 17	Expl. 1, H209;H210
barium nitrate	CAS-No.: 10022-31-8	1 – 3	Ox. Liq. 2, H272 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319
lead styphnate	CAS-No.: 15245-44-0	1 – 2.5	Expl. 1, H209;H210 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Repr. 1A, H360 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

# DX-Cartridge

## Safety Data Sheet

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

Name	Product identifier	%	Classification according to the United Nations GHS
diphenylamine	CAS-No.: 122-39-4	0.1 – 1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Eye Irrit. 2A, H319 Carc. 2, H351 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
tetrazene	CAS-No.: 109-27-3	0 – 1	Expl. 1, H209;H210 Eye Irrit. 2A, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

## SECTION 4: First-aid measures

### 4.1. Description of necessary first-aid measures

First-aid measures general	In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
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.
First-aid measures after eye contact	Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. 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/effects, acute and delayed

Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.
Potential adverse human health effects and symptoms	No harmful effects are to be expected if used properly. The contained ingredients can be harmful, but they are hermetically enclosed in the article and can not be released. The dismantling of the article is prohibited.

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

No additional information available.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Suitable extinguishing media	Dry powder. Water spray.
Unsuitable extinguishing media	Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Explosion hazard	Explosion risk in case of fire.
Hazardous decomposition products in case of fire	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Nitrous gasses.

### 5.3. Special protective actions for fire-fighters

Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.

# DX-Cartridge

## Safety Data Sheet

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

### SECTION 6: Accidental release measures

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

General measures Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

##### 6.1.1. For non-emergency personnel

Emergency procedures Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment Equip cleanup crew with proper protection.

Emergency procedures Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and materials for containment and cleaning up

Methods for cleaning up Pick up loose cartridges only by hand.  
Exposed ingredients must be swept up carefully and phlegmatized in a water container, labelled according the regulations, wipe down with water the contaminated area. Store away from other materials.

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

Precautions for safe handling Do not subject to grinding, shock, friction. Take precautionary measures against static discharge. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Additional hazards when processed Hazardous waste due to potential risk of explosion.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources. Store in a dry place.

Storage area Store away from heat.

Incompatible products Strong bases. Strong acids.

Information on mixed storage Keep away from : Ignition sources. Do not store with: Store according to local legislation.

Storage temperature 5 – 25 °C

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Appropriate engineering controls

Appropriate engineering controls No additional information available.

Environmental exposure controls Do not eat, drink or smoke during use.

Other information Do not eat, drink or smoke during use.

#### 8.3. Individual protection measures, such as personal protective equipment (PPE)

##### Personal protective equipment:

When using cartridge operated tools, sufficient ear protection must be worn.

Hand protection Not required for normal conditions of use

# DX-Cartridge

## Safety Data Sheet

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

Eye protection	Chemical goggles or safety glasses. ISO 16321-1
Skin and body protection	When using cartridge operated tools, sufficient ear protection must be worn.
Respiratory protection	Respiratory protection not required in normal conditions

### Personal protective equipment symbol(s)



Thermal hazard protection	No information available.
---------------------------	---------------------------

### 8.4. Exposure limit values for the other components

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Basic physical and chemical properties

Physical state	Solid
Colour	According to product specification.
Odour	There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Odour threshold	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	Not available
Flammability	Not available
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
pH	Not available
pH solution	Not available
Viscosity, kinematic (calculated value) (40 °C)	Not applicable
Partition coefficient n-octanol/water (Log Kow)	Not available
Vapour pressure	Not available
Vapour pressure at 50°C	Not available
Density	Not available
Relative density	Not available
Relative vapour density at 20°C	Not applicable
Solubility	Not available
Particle size	Not available

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

Explosive properties	Fire or projection hazard.
Additional information	Not applicable
	Article

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

# DX-Cartridge

## Safety Data Sheet

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

### 10.3. Possibility of hazardous reactions

Risk of explosion by shock, friction, fire or other sources of ignition. Heating may cause an explosion. At high temperatures : > 150 °C Response.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Overheating. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Nitrogen oxides. Metal oxides. Thermal decomposition can lead to the release of irritating gases and vapours.

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

<b>glycerol trinitrate (55-63-0)</b>	
LD50 oral	685 mg/kg
LD50 dermal rat	> 9560 mg/kg bodyweight (OECD 402 method)
<b>lead styphnate (15245-44-0)</b>	
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402 method)
LC50 Inhalation - Rat (Dust/Mist)	> 5.05 mg/l/4h (OECD 403 method)
<b>barium nitrate (10022-31-8)</b>	
LD50 oral	355 mg/kg
<b>diphenylamine (122-39-4)</b>	
LD50 oral rat	> 800 mg/kg bodyweight
LD50 oral	2480 mg/kg
LD50 dermal	5000 mg/kg

Skin corrosion/irritation	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	Not classified (Based on available data, the classification criteria are not met) (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) (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) (Based on available data, the classification criteria are not met)
Carcinogenicity	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
Reproductive toxicity	Not classified (Based on available data, the classification criteria are not met) (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) (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) (Based on available data, the classification criteria are not met)

# DX-Cartridge

## Safety Data Sheet

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

<b>glycerol trinitrate (55-63-0)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
<b>lead styphnate (15245-44-0)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
<b>diphenylamine (122-39-4)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
Potential adverse human health effects and symptoms	No harmful effects are to be expected if used properly. The contained ingredients can be harmful, but they are hermetically enclosed in the article and can not be released. The dismantling of the article is prohibited.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	No harmful effects are to be expected if used properly. The contained ingredients can be harmful, but they are hermetically enclosed in the article and can not be released. The dismantling of the article is prohibited.
Hazardous to the aquatic environment, short-term (acute)	Not classified (Based on available data, the classification criteria are not met) (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) (Based on available data, the classification criteria are not met)

<b>glycerol trinitrate (55-63-0)</b>	
LC50 - Fish [1]	1.9 – 3.58 mg/l (96 h; Oncorhynchus mykiss; ASTM Designation E 729-80)
EC50 - Crustacea [1]	17.83 mg/l (48 h; Ceriodaphnia dubia; ASTM Designation E 729-80)
EC50 96h - Algae [1]	1.15 mg/l (Raphidocelis subcapitata; EPA TSCA Experimental Method 797.1060)
NOEC chronic fish	0.03 mg/l
NOEC chronic crustacea	3.23 mg/l (7 d; Ceriodaphnia dubia)
<b>lead styphnate (15245-44-0)</b>	
LC50 - Fish [1]	0.107 mg/l (96 h; Oncorhynchus mykiss; Lead)
EC50 - Crustacea [1]	7 mg/l
NOEC chronic fish	0.0189 – 1.559 mg/l (Fish; Lead)
NOEC chronic crustacea	0.0017 – 0.496 mg/l (aquatic invertebrates; Lead)
<b>barium nitrate (10022-31-8)</b>	
EC50 - Crustacea [1]	9018 mg/l
<b>diphenylamine (122-39-4)</b>	
EC50 - Crustacea [1]	2 mg/l (48 h; Daphnia magna; (OECD 202 method))
EC50 72h - Algae [1]	2.17 mg/l (Raphidocelis subcapitata; (OECD 201 method))
NOEC chronic algae	0.0273 mg/l
<b>tetrazene (109-27-3)</b>	
EC50 - Crustacea [1]	0.14 mg/l

# DX-Cartridge

## Safety Data Sheet

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

### 12.2. Persistence and degradability

<b>DX-Cartridge</b>	
Persistence and degradability	Not established.
<b>glycerol trinitrate (55-63-0)</b>	
Not rapidly degradable	
Persistence and degradability	Inherently biodegradable.
Biodegradation	92.2 % (84 h)
<b>lead styphnate (15245-44-0)</b>	
Not rapidly degradable	
<b>barium nitrate (10022-31-8)</b>	
Not rapidly degradable	
<b>diphenylamine (122-39-4)</b>	
Not rapidly degradable	
Persistence and degradability	Not readily biodegraded.
Biodegradation	26 % (28 d; (OECD 301D method))
<b>tetrazene (109-27-3)</b>	
Not rapidly degradable	

### 12.3. Bioaccumulative potential

<b>DX-Cartridge</b>	
Bioaccumulative potential	Not established.
<b>glycerol trinitrate (55-63-0)</b>	
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).
<b>lead styphnate (15245-44-0)</b>	
BCF - Fish [1]	1.553
Partition coefficient n-octanol/water (Log Pow)	-2.19 (20 °C)
<b>diphenylamine (122-39-4)</b>	
Partition coefficient n-octanol/water (Log Pow)	3.82 (20,2 °C)
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

### 12.4. Mobility in soil

<b>DX-Cartridge</b>	
Mobility in soil	No additional information available
<b>glycerol trinitrate (55-63-0)</b>	
Ecology - soil	Low potential for adsorption in soil.
<b>diphenylamine (122-39-4)</b>	
Surface tension	72.3 mN/m (20 °C; EU Method A.5)

### 12.5. Other adverse effects

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



# DX-Cartridge

## Safety Data Sheet

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

Other information Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Product/Packaging disposal recommendations Dispose in a safe manner in accordance with local/national regulations. Refer to manufacturer/supplier for information on recovery/recycling. At high temperatures may form : Response.

Ecological information Avoid release to the environment.

Additional information Unused cartridges: Hazardous waste due to risk of explosion. European waste catalogue: 16 04 01\* - waste ammunition. If possible use up the cartridges or store them for your next project.  
If cartridges are used up: European waste catalogue: 20 03 01 - mixed municipal waste . The product can be disposed of as household or factory waste.

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
<b>14.1. UN number or ID number</b>			
UN 0323	UN 0323	UN 0323	UN 0323
<b>14.2. UN proper shipping name</b>			
CARTRIDGES, POWER DEVICE	CARTRIDGES, POWER DEVICE	Cartridges, power device	CARTRIDGES, POWER DEVICE
<b>Transport document description</b>			
UN 0323 CARTRIDGES, POWER DEVICE, 1.4S, (E)	UN 0323 CARTRIDGES, POWER DEVICE, 1.4S	UN 0323 Cartridges, power device, 1.4S	UN 0323 CARTRIDGES, POWER DEVICE, 1.4S
<b>14.3. Transport hazard class(es)</b>			
1.4S	1.4S	1.4S	1.4S
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
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) 1.4S  
 Special provisions (ADR) 347  
 Limited quantities (ADR) 0  
 Excepted quantities (ADR) E0  
 Packing instructions (ADR) P134, LP102  
 Mixed packing provisions (ADR) MP23  
 Transport category (ADR) 4



# DX-Cartridge

## Safety Data Sheet

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

---

Special provisions for carriage - Loading, unloading and handling (ADR)	CV1, CV2, CV3
Special provisions for carriage - Operation (ADR)	S1
Tunnel restriction code (ADR)	E

### Transport by sea

Special provisions (IMDG)	347
Limited quantities (IMDG)	0
Excepted quantities (IMDG)	E0
Packing instructions (IMDG)	P134, LP102
EmS-No. (Fire)	F-B
EmS-No. (Spillage)	S-X
Stowage category (IMDG)	01
Stowage and handling (IMDG)	SW1
Properties and observations (IMDG)	See glossary of terms in appendix B.
MFAG-No	114

### Air transport

PCA Excepted quantities (IATA)	E0
PCA Limited quantities (IATA)	Forbidden
PCA limited quantity max net quantity (IATA)	Forbidden
PCA packing instructions (IATA)	134
PCA max net quantity (IATA)	25kg
CAO packing instructions (IATA)	134
CAO max net quantity (IATA)	100kg
Special provisions (IATA)	A165
ERG code (IATA)	3L

### Rail transport

Classification code (RID)	1.4S
Special provisions (RID)	347
Limited quantities (RID)	0
Excepted quantities (RID)	E0
Packing instructions (RID)	P134, LP102
Mixed packing provisions (RID)	MP23
Transport category (RID)	4
Special provisions for carriage – Packages (RID)	W2
Special provisions for carriage - Loading, unloading and handling (RID)	CW1
Colis express (express parcels) (RID)	CE1
Hazard identification number (RID)	1.4S

### 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 product in question

No additional information available

## SECTION 16: Other information

SDS Major/Minor	None
Issue date	6/4/2024
Revision date	6/4/2024

# DX-Cartridge

## Safety Data Sheet

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

### 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

Full text of H-statements:	
Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Acute 2	Hazardous to the aquatic environment – Acute Hazard, Category 2
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1



# DX-Cartridge

## Safety Data Sheet

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

Full text of H-statements:	
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Carc. 2	Carcinogenicity, Category 2
Expl. 1	Explosives, Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Ox. Liq. 2	Oxidising Liquids, Category 2
Repr. 1A	Reproductive toxicity, Category 1A
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H209	Explosive
H210	Very sensitive
H272	May intensify fire; oxidiser
H300	Fatal if swallowed
H301	Toxic if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H319	Causes serious eye irritation
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

SDS UN 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.