

DX-Cartridge

Safety Data Sheet

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

Issue date: 25/07/2025

Revision date: 25/07/2025

Supersedes: 20/10/2021

Version: 4.0

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 use	CARTRIDGES FOR TOOLS, BLANK
Restrictions on use	For professional use only

1.4. Supplier's details

Supplier

Hilti Saudi Arabia for Construction Tools LLC
King Fahd Street
P.O. Box 15930
SA 21454 Jeddah
Saudi Arabia
T +966 2 213 8400, F +966 2 697 4696
sa.customerservice@hilti.com

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
FL 9494 Schaan
Liechtenstein
T +423 234 2111
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 +966 2 213 8400
------------------	--

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Explosives, Division 1.4	H204	Expert judgement
Full text of H-statements: see section 16		
Adverse physicochemical, human health and environmental effects	Fire or projection hazard.	

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)

Warning
H204 - Fire or projection hazard
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.

DX-Cartridge

Safety Data Sheet

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

P370+P380+P375 - In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
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 Restricted to professional users, Category of the pyrotechnic article: other pyrotechnic articles Cat. P1
(BAM EC-Type-Examination Certificate No. 0589.PYR.3800/12 or 0589.PYR.3804/12 respectively), 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 6.8/11 (cal .27 short) white: 130; brown: 140; green: 160; yellow: 180; red: 230; titanium: 230; black: 260
Caliber 6.8/18 (cal .27 long) green: 190; yellow: 220; blue: 300; red: 330; black: 410
Caliber 6.3/10 (cal. 25) green 120; yellow: 190; red: 230; black: 250
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
cellulose nitrate	CAS-No.: 9004-70-0	5 – 17	Unst. Expl., H200
glycerol trinitrate	CAS-No.: 55-63-0	2 – 7	Unst. Expl., H200 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
lead styphnate	CAS-No.: 15245-44-0	0.1 – 3	Unst. Expl., H200 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
Barium nitrate	CAS-No.: 10022-31-8	0 – 3	Ox. Sol. 2, H272 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319
copper	CAS-No.: 7440-50-8	0 – 2	Aquatic Acute 1, H400 Aquatic Chronic 3, H412
zinc	CAS-No.: 7440-66-6	0 – 2	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Diphenylamine	CAS-No.: 122-39-4	0 – 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	Unst. Expl., H200 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

Unsuitable extinguishing media	Do not use a heavy water stream.
--------------------------------	----------------------------------

DX-Cartridge

Safety Data Sheet

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

5.2. Specific hazards arising from the chemical

Fire hazard	Explosion risk in case of fire.
Hazardous decomposition products in case of fire	Carbon monoxide. Carbon dioxide (CO ₂). 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.

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

Protective equipment	Wear recommended personal protective equipment.
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

Technical measures	Ground/bond container and receiving equipment.
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

DX-Cartridge

Safety Data Sheet

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

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	Avoid release to the environment.
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
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

DX-Cartridge

Safety Data Sheet

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

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

Fire or projection hazard.

10.2. Chemical stability

Stable under normal conditions.

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)
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)

glycerol trinitrate (55-63-0)	
LD50 oral	685 mg/kg
LD50 dermal rat	> 9560 mg/kg bodyweight (OECD 402 method)
LD50 dermal	9560 mg/kg
lead styphnate (15245-44-0)	
LD50 oral rat	> 2000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402 method)
LC50 Inhalation - Rat (Dust/Mist)	> 5.05 mg/l/4h (OECD 403 method)
Barium nitrate (10022-31-8)	
LD50 oral	355 mg/kg
zinc (7440-66-6)	
LD50 oral rat	> 2000 mg/kg (OECD 401 method)
LD50 oral	2500 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	5.41 mg/l/4h

DX-Cartridge

Safety Data Sheet

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

Diphenylamine (122-39-4)	
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)
Serious eye damage/irritation	Not classified (Based on available data, the classification criteria are not met)
Respiratory or 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)
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)
glycerol trinitrate (55-63-0)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
lead styphnate (15245-44-0)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Diphenylamine (122-39-4)	
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)
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)
Hazardous to the aquatic environment, long-term (chronic)	Not classified (Based on available data, the classification criteria are not met)
glycerol trinitrate (55-63-0)	
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)
lead styphnate (15245-44-0)	
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)

DX-Cartridge

Safety Data Sheet

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

Barium nitrate (10022-31-8)	
EC50 - Crustacea [1]	9018 mg/l
zinc (7440-66-6)	
LC50 - Fish [1]	169 µg/l (96h; Oncorhynchus Mykiss)
EC50 - Crustacea [1]	< 0.1 µg/l (48h; Ceriodaphnia dubia)
ErC50 algae	0.15 mg/l
NOEC chronic fish	26 µg/L (30 d; Jordanella floridae)
NOEC chronic crustacea	48 µg/L (21d; Daphnia magna; (OECD 211 method))
Diphenylamine (122-39-4)	
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
tetrazene (109-27-3)	
EC50 - Crustacea [1]	0.14 mg/l

12.2. Persistence and degradability

DX-Cartridge	
Persistence and degradability	Not established.
cellulose nitrate (9004-70-0)	
Persistence and degradability	Rapidly degradable
glycerol trinitrate (55-63-0)	
Persistence and degradability	Inherently biodegradable.
Biodegradation	92.2 % (84 h)
lead styphnate (15245-44-0)	
Persistence and degradability	Not rapidly degradable
Barium nitrate (10022-31-8)	
Persistence and degradability	Not rapidly degradable
copper (7440-50-8)	
Persistence and degradability	Not rapidly degradable
zinc (7440-66-6)	
Persistence and degradability	Not applicable for inorganic products.
Diphenylamine (122-39-4)	
Persistence and degradability	Not readily biodegraded.
Biodegradation	26 % (28 d; (OECD 301D method))
tetrazene (109-27-3)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

DX-Cartridge	
Bioaccumulative potential	Not established.

DX-Cartridge

Safety Data Sheet

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

glycerol trinitrate (55-63-0)	
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).
lead styphnate (15245-44-0)	
BCF - Fish [1]	1.553
Partition coefficient n-octanol/water (Log Pow)	-2.19 (20 °C)
zinc (7440-66-6)	
Bioaccumulative potential	Bioaccumulation unlikely.
Diphenylamine (122-39-4)	
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

DX-Cartridge	
Mobility in soil	No additional information available
glycerol trinitrate (55-63-0)	
Ecology - soil	Low potential for adsorption in soil.
Diphenylamine (122-39-4)	
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)
Other adverse effects	No additional information available.
Other information	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	Disposal must be done according to official regulations.
Waste treatment methods	Must follow special treatment according to local regulation.
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 waste information	Avoid release to the environment.
Additional information	Cartridge strips with 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 not possible to use up the cartridges - The strip is mixed municipal waste and the cartridge itself is "waste ammunition" and has to be disposed of by an authorized/certified company. If cartridges are used up: European waste catalogue: 20 03 01 - mixed municipal waste . The product (cartridges and strip) can be disposed of as household or factory waste.





SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID

DX-Cartridge

Safety Data Sheet

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

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
UN 0323	UN 0323	UN 0323	UN 0323
14.2. UN proper shipping name			
CARTRIDGES, POWER DEVICE	CARTRIDGES, POWER DEVICE	Cartridges, power device	CARTRIDGES, POWER DEVICE
Transport document description			
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
14.3. Transport hazard class(es)			
1.4S	1.4S	1.4S	1.4S
			
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)	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
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

DX-Cartridge

Safety Data Sheet

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

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, A802
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	7/25/2025
Revision date	7/25/2025
Supersedes	10/20/2021

Section	Changed item	Comments
	General	No additional information available
1	Emergency number	Modified
1.3	Department issuing data specification sheet	Modified
8.2	Personal protective equipment	Added

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

DX-Cartridge

Safety Data Sheet

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

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

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
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Carc. 2	Carcinogenicity, Category 2
Expl. 1.4	Explosives, Division 1.4

DX-Cartridge

Safety Data Sheet

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

Full text of H-statements:	
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Ox. Sol. 2	Oxidising Solids, Category 2
Repr. 1A	Reproductive toxicity, Category 1A
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
Unst. Expl.	Explosives, Unstable explosives
H200	Unstable explosives
H204	Fire or projection hazard
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
H412	Harmful 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.