

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Issue date: 10/20/2021

Revision date: 10/20/2021

Supersedes: 04/12/2017

Version: 2.3

SECTION 1: Identification

1.1. Product identifier

Product form	Article
Trade name	DX-Cartridge
Product code	BU Direct Fastening

1.2. Recommended use and restrictions on use

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

1.3. Supplier

Supplier Hilti (Canada) Corp. 2360 Meadowpine Boulevard L5N 6S2 Mississauga, Ontario - Canada T +1905 8139200 1-800-363-4458 toll free - F +1 905 813 9009	Department issuing data specification sheet Hilti Entwicklungsgesellschaft mbH Hiltistraße 6 86916 Kaufering - Deutschland T +49 8191 906876 anchor.hse@hilti.com
--	---

1.4. Emergency telephone number

Emergency number	Chem-Trec Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada) Tel.: 703 527 3887 (Other countries)
------------------	---

SECTION 2: Hazard identification

The dismantling of the article is prohibited!, This article contains hazardous substances or preparations not intended to be released under normal or reasonably foreseeable conditions of use.

2.1. Classification of the substance or mixture

Classification (GHS CA)

Not classified

2.2. GHS Label elements, including precautionary statements

GHS CA labelling

Precautionary statements (GHS CA)	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. P372 - Explosion risk in case of fire. P370+P380+P375 - In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. P401 - Store in accordance with local regulations on explosives.
-----------------------------------	---

2.3. Other hazards

Other hazards which do not result in 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).
---	--

2.4. Unknown acute toxicity (GHS CA)

No data available

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

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)

Priming composition: SINTOX (initiating explosive) Mass per cartridge: 20,9 mg in the mean.

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	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
cellulose nitrate		(CAS-No.) 9004-70-0	5 – 21	Not classified
glycerol trinitrate	glycerol trinitrate; nitroglycerine 1,2,3-propanetriol trinitrate / 1,2,3-propanetriol, trinitrate / 1,2,3-propanetriyl nitrate / glycerin trinitrate / glycerol trinitrate / glycerol, nitric acid triester / glyceryl nitrate / glyceryl trinitrate / GTN (=glycerol trinitrate) / NG (=nitroglycerine) / nitric acid triester of glycerol / nitroglin / nitroglycerin, liquid, not desensitized / nitroglycerin, liquid, undesensitized / nitroglycerine / nitroglycerol / nitroglin / nitrol (=nitroglycerine) / propanetriol trinitrate / trinitroglycerine / trinitroglycerol	(CAS-No.) 55-63-0	2 – 10	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 STOT RE 2, H373 Aquatic Chronic 2, H411
lead styphnate	lead 2,4,6-trinitro-m-phenylene dioxide; lead 2,4,6-trinitroresorcinoxide; lead styphnate 1,3-benzenediol, 2,4,6-trinitro-, lead(2+) salt (1:1) / 1,3-benzenediol, 2,4,6-trinitro-, lead(2++) salt (1:1) / initiating explosive lead trinitroresorcinate / initiating explosive leadstyphnate / lead 2,4,6-trinitro-meta-phenylene dioxide / lead 2,4,6-trinitro-m-phenylene dioxide / lead 2,4,6-trinitroresorcinoxide / lead styphnate / lead styphnate, dry / lead trinitroresorcinate / lead-2,4,6-trinitroresorcinate / lead-2,4,6-trinitroresorcinate / lead-2,4,6-trinitroresorcinate / leadstyphnate / styphnate of lead	(CAS-No.) 15245-44-0	0.1 – 3	Not classified
barium nitrate	barium nitrate / barium salt of nitric acid / barium(II) nitrate / nitrate of barium / nitrate of baryta / nitric acid, barium salt / nitrobarite	(CAS-No.) 10022-31-8	0.1 – 3	Acute Tox. 3 (Oral), H301
copper		(CAS-No.) 7440-50-8	0 – 2	Aquatic Acute 1, H400 Aquatic Chronic 3, H412
zinc	zinc powder— zinc dust (stabilised) zinc / zinc powder - zinc dust (stabilised)	(CAS-No.) 7440-66-6	0 – 2	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
diphenylamine	diphenylamine aniline, N-phenyl- / anilinobenzene (=diphenylamine) / benzenamine, N-phenyl- / benzene, (phenylamino)- / benzene, anilino- / big dipper / C.I. 10355 / CI 10355 / deccosald 282 / DFA (=difenylamine) / diphenylamine / DPA (=diphenylamine) / N,N-diphenylamine / N-diphenylamine / no scald / no-scald / no-scald DPA 283 / N-phenylaniline / N-phenylbenzenamine / N-phenylbenzeneamine / phenylaminobenzene / phenylaniline / scaldip / shield DPA	(CAS-No.) 122-39-4	0.1 – 1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
tetrazene		(CAS-No.) 109-27-3	0 – 1	Eye Irrit. 2A, H319

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	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.
First-aid measures after ingestion	Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.
First-aid measures general	In all cases of doubt, or when symptoms persist, seek medical attention.

4.2. Most important symptoms and 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 additional information available. 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. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media	Dry powder. Water spray.
------------------------------	--------------------------

5.2. Unsuitable extinguishing media

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

5.3. Specific hazards arising from the hazardous product

Hazardous decomposition products in case of fire	Carbon monoxide. Carbon dioxide (CO ₂). Nitrous gasses.
--	---

5.4. Special protective equipment and precautions 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 Hazardous Products Regulation (February 11, 2015)

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.

6.2. 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 to the regulations, wipe down with water the contaminated area. Store away from other materials.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

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.

Incompatible products Strong bases. Strong acids.

Storage temperature 5 – 25 °C

Storage area Store away from heat.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DX-Cartridge	
Canada (Alberta) - Occupational Exposure Limits	
OEL TWA	0.2 mg/m ³ Fume 1 mg/m ³ Dusts/mists, as Cu
Regulatory reference	Alberta Regulation 87/2009 (Alberta Regulation 150/2020)
Canada (Quebec) - Occupational Exposure Limits	
VEMP (OEL TWA)	0.2 mg/m ³ Fume 1 mg/m ³ Dusts & mists
Regulatory reference	S-2.1, r. 13 - Regulation respecting occupational health and safety
Canada (British Columbia) - Occupational Exposure Limits	
Local name	Copper, as Cu
OEL TWA	1 mg/m ³ Dusts and mists 0.2 mg/m ³ Fume
Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

DX-Cartridge	
Canada (Ontario) - Occupational Exposure Limits	
OEL TWA	1 mg/m ³
Regulatory reference	Ontario Occupational Exposure Limits under Regulation 833

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

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

Eye protection:

Safety glasses

Skin and body protection:

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

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	No data available
Colour	According to product specification
Odour	There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Sweet odour Pleasant odour Floral odour Odourless
Odour threshold	No data available
pH	No data available
Relative evaporation rate (butylacetate=1)	No data available
Relative evaporation rate (ether=1)	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	No data available
Vapour pressure	No data available
Vapour pressure at 50 °C	No data available
Relative density	No data available

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Explosive properties	Fire or projection hazard.
Explosive limits	No data available

9.2. Other information

Additional information	: Not applicable Article
------------------------	-----------------------------

SECTION 10: Stability and reactivity

Reactivity	No additional information available
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Not established.
Conditions to avoid	Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Overheating.
Incompatible materials	Strong acids. Strong bases.
Hazardous decomposition products	Carbon monoxide. Carbon dioxide. Nitrogen oxides. Metal oxides. Thermal decomposition can lead to the release of irritating gases and vapours.
Hardening time:	No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified

glycerol trinitrate (55-63-0)	
LD50 oral rat	685 mg/kg bodyweight (Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	685 mg/kg
LD50 dermal rat	> 9560 mg/kg bodyweight (Equivalent or similar to OECD 402, Rat, Male / female, Experimental value, Dermal)
ATE CA (oral)	5 mg/kg bodyweight
ATE CA (Dermal)	5 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	100 ppmv/4h
ATE CA (vapours)	0.5 mg/l/4h
ATE CA (dust,mist)	0.05 mg/l/4h
diphenylamine (122-39-4)	
LD50 oral rat	> 800 mg/kg bodyweight (Rat, Male, Experimental value, Oral)
ATE CA (oral)	100 mg/kg bodyweight
ATE CA (Dermal)	300 mg/kg bodyweight
ATE CA (Gases (except aerosol dispensers and lighters))	700 ppmv/4h
ATE CA (vapours)	3 mg/l/4h
ATE CA (dust,mist)	0.5 mg/l/4h
barium nitrate (10022-31-8)	
LD50 oral rat	50 – 300 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 oral	355 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

barium nitrate (10022-31-8)	
LC50 Inhalation - Rat	> 1.1 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
ATE CA (oral)	50 mg/kg bodyweight

zinc (7440-66-6)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))

Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified

Reproductive toxicity Not classified

STOT-single exposure Not classified

STOT-repeated exposure Not classified

glycerol trinitrate (55-63-0)	
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

Potential adverse human health effects and symptoms No additional information available. 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.

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

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

Hazardous to the aquatic environment, long-term (chronic) Not classified

glycerol trinitrate (55-63-0)	
LC50 - Fish [1]	1.9 mg/l (ASTM E729-80, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, Lethal)
NOEC chronic fish	0.03 mg/l

lead styphnate (15245-44-0)	
EC50 - Crustacea [1]	7 mg/l

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

diphenylamine (122-39-4)	
EC50 - Crustacea [1]	2 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	2.17 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Experimental value, GLP)
NOEC chronic algae	0.0273 mg/l
BCF - Fish [1]	51 – 253 (Cyprinus carpio, Literature study, Test duration: 8 weeks)
Partition coefficient n-octanol/water (Log Pow)	3.71 – 3.84 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20.2 °C)
Partition coefficient n-octanol/water (Log Koc)	2.818 – 2.917 (log Koc, SRC PCKOCWIN v2.0, Calculated value)

barium nitrate (10022-31-8)	
EC50 - Crustacea [1]	9018 mg/l
EC50 72h - Algae [1]	> 45.6 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

tetrazene (109-27-3)	
EC50 - Crustacea [1]	0.14 mg/l

copper (7440-50-8)	
LC50 - Fish [1]	200 µg/l (96 h, Salmo gairdneri, Flow-through system, Fresh water, Weight of evidence, Lethal)
EC50 - Crustacea [1]	109 – 798 µg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Weight of evidence, Locomotor effect)
EC50 72h - Algae [1]	230 µg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, Growth rate)

zinc (7440-66-6)	
LC50 - Fish [1]	0.169 mg/l (Other, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Read-across, Zinc ion)
EC50 - Crustacea [1]	416 µg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Ceriodaphnia dubia, Static system, Fresh water, Experimental value)
ErC50 algae	0.15 mg/l
BCF - Fish [1]	0.002 (40 day(s), Danio rerio, Semi-static system, Fresh water, Read-across)

12.2. Persistence and degradability

DX-Cartridge	
Persistence and degradability	Not established.

glycerol trinitrate (55-63-0)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	53.6 g O ₂ /g substance

diphenylamine (122-39-4)	
Persistence and degradability	Not readily biodegradable in water.
ThOD	2.39 g O ₂ /g substance

barium nitrate (10022-31-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

copper (7440-50-8)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

zinc (7440-66-6)	
Persistence and degradability	Biodegradability: not applicable.

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

zinc (7440-66-6)	
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

DX-Cartridge	
Bioaccumulative potential	Not established.
glycerol trinitrate (55-63-0)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
diphenylamine (122-39-4)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
BCF - Fish [1]	51 – 253 (Cyprinus carpio, Literature study, Test duration: 8 weeks)
Partition coefficient n-octanol/water (Log Pow)	3.71 – 3.84 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20.2 °C)
Partition coefficient n-octanol/water (Log Koc)	2.818 – 2.917 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
barium nitrate (10022-31-8)	
Bioaccumulative potential	Not bioaccumulative.
copper (7440-50-8)	
Bioaccumulative potential	Bioaccumulation: not applicable.
zinc (7440-66-6)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
BCF - Fish [1]	0.002 (40 day(s), Danio rerio, Semi-static system, Fresh water, Read-across)

12.4. Mobility in soil

glycerol trinitrate (55-63-0)	
Ecology - soil	Low potential for adsorption in soil.
diphenylamine (122-39-4)	
Surface tension	71.8 mN/m (20 °C, 90 %, EU Method A.5: Surface tension)
Ecology - soil	Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation.
Partition coefficient n-octanol/water (Log Koc)	2.818 – 2.917 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	3.71 – 3.84 (Weight of evidence approach, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20.2 °C)
barium nitrate (10022-31-8)	
Surface tension	No data available in the literature
Ecology - soil	Adsorption to soil is possible.
copper (7440-50-8)	
Ecology - soil	Adsorbs into the soil.
zinc (7440-66-6)	
Surface tension	No data available in the literature
Ecology - soil	Adsorbs into the soil.

12.5. Other adverse effects

Ozone	Not classified
Other information	Avoid release to the environment.

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

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.
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.
Ecology - waste materials	Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
UN 0014	UN 0014	UN 0014	UN 0014
14.2. UN proper shipping name			
CARTRIDGES FOR TOOLS, BLANK	CARTRIDGES FOR TOOLS, BLANK	Cartridges for tools, blank	CARTRIDGES FOR TOOLS, BLANK
Transport document description			
UN 0014 CARTRIDGES FOR TOOLS, BLANK, 1.4S, (E)	UN 0014 CARTRIDGES FOR TOOLS, BLANK, 1.4S	UN 0014 Cartridges for tools, blank, 1.4S	UN 0014 CARTRIDGES FOR TOOLS, BLANK, 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)	364
Limited quantities (ADR)	5kg
Packing instructions (ADR)	P130
Mixed packing provisions (ADR)	MP23, MP24
Transport category (ADR)	4
Tunnel restriction code (ADR)	E

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Transport by sea

Special provisions (IMDG)	364
Limited quantities (IMDG)	5 kg
Packing instructions (IMDG)	P130
EmS-No. (Fire)	F-B
EmS-No. (Spillage)	S-X
Stowage category (IMDG)	01
Stowage and handling (IMDG)	SW1
MFAG-No	114

Air transport

PCA packing instructions (IATA)	130
PCA max net quantity (IATA)	25kg
CAO packing instructions (IATA)	130
Special provisions (IATA)	A802

Rail transport

Special provisions (RID)	364
Limited quantities (RID)	5kg
Packing instructions (RID)	P130, LP101

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

glycerol trinitrate (55-63-0)
Listed on the Canadian DSL (Domestic Substances List)
lead styphnate (15245-44-0)
Listed on the Canadian DSL (Domestic Substances List)
diphenylamine (122-39-4)
Listed on the Canadian DSL (Domestic Substances List)
barium nitrate (10022-31-8)
Listed on the Canadian DSL (Domestic Substances List)
cellulose nitrate (9004-70-0)
Listed on the Canadian DSL (Domestic Substances List)
tetrazene (109-27-3)
Listed on the Canadian NDSL (Non-Domestic Substances List)
copper (7440-50-8)
Listed on the Canadian DSL (Domestic Substances List)
zinc (7440-66-6)
Listed on the Canadian DSL (Domestic Substances List)

15.2. International regulations

glycerol trinitrate (55-63-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
lead styphnate (15245-44-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

diphenylamine (122-39-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
barium nitrate (10022-31-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
cellulose nitrate (9004-70-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
tetrazene (109-27-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
copper (7440-50-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
zinc (7440-66-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

SECTION 16: Other information

Issue date	10-20-2021
Revision date	10-20-2021
Supersedes	04-12-2017

Indication of changes:

Section	Changed item	Change	Comments
2.2	Precautionary statements (GHS CA)	Added	
3.2	Composition/information on ingredients	Modified	

Full text of H-statements:

H300	Fatal if swallowed.
H301	Toxic 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.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very 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.

Abbreviations and acronyms:

DX-Cartridge

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

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
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
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
vPvB	Very Persistent and Very Bioaccumulative

SDS_CA_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.