

# DX-Cartridge Clean-Tec

## Safety Data Sheet

According to SS 586 Part 3: 2014

Version: 1.0

Revision date: 18.01.2021

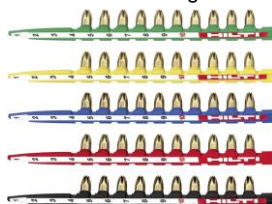
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Supersedes:

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

#### 1.1. Product identifier

Product form	Article
Product name	DX-Cartridge Clean-Tec
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 For professional use only

#### 1.4. Supplier's details

**Supplier**  
Hilti Far East Private Ltd.  
No 20 Harbour Drive,  
#06-06/08 PSA Vista  
117612 Singapore - Singapur  
T +65 6777 7887 - F +65 6777 3057  
[sg-customerservice@hilti.com](mailto:sg-customerservice@hilti.com)

**Department issuing data specification sheet**  
Hilti Entwicklungsgesellschaft mbH  
Hiltistraße 6  
86916 Kaufering - Deutschland  
T +49 8191 906876  
[anchor.hse@hilti.com](mailto:anchor.hse@hilti.com)

#### 1.5. Emergency telephone number

Emergency number Schweizerisches Toxikologisches Informationszentrum – 24h Service  
+41 44 251 51 51 (international)  
+65 6777 7887

### SECTION 2: Hazards 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

Physical hazards Explosives, Division 1.4

#### 2.2. Label elements

Hazard pictograms (GHS SG)



Signal word (GHS SG)

Warning

Hazard statements (GHS SG)

Fire or projection hazard. (H204)

Precautionary statements

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)  
Do not subject to shock, friction, grinding. (P250)  
Wear eye protection. (P280)

Response

In case of fire: Evacuate area. (P370+P380)  
Fight fire with normal precautions from a reasonable distance. (P374)

Storage

Store in accordance with local regulations on explosives. (P401)

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### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Concentration (%)	Formula	Product identifier	GHS SG classification
glycerol trinitrate	3 – 10	C3H5N3O9	(CAS-No.) 55-63-0 (EC-No.) 200-240-8 (EC Index-No.) 603-034-00-X	Unst. Expl., H200 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 STOT RE 2, H373 Aquatic Chronic 2, H411
diphenylamine	0 – 1	C12H11N	(CAS-No.) 122-39-4 (EC-No.) 204-539-4 (EC Index-No.) 612-026-00-5	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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation	Allow affected person to breathe fresh air. Allow the victim to rest.
Skin contact	Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
Eye contact	Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
Ingestion	Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

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

### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 5.3. Special Protective actions for the 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.

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### 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 material 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.

#### 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

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

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.

#### 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.

Incompatible materials Sources of ignition. Direct sunlight.

Storage temperature 5 – 25 °C

Information on mixed storage KEEP SUBSTANCE AWAY FROM: highly flammable materials. ignition sources.

Storage area Store away from heat.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

DX-Cartridge Clean-Tec	
Singapore - Occupational Exposure Limits	
OEL PEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Regulatory reference	WSH Regulations 2014

#### 8.2. Monitoring

No additional information available

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### 8.3. Appropriate engineering controls

No additional information available

### 8.4. Personal protective equipment

Eye protection

Safety glasses

Skin and body protection

When using setting tools, sufficient ear protection must be worn.

Personal protective equipment symbol(s)



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Solid
Colour	No data available
Odour	No data available
Odour threshold	No data available
pH	No data available
Relative evaporation rate (butylacetate=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
Relative vapour density at 20 °C	No data available
Relative density	No data available
Solubility	No data available
Partition coefficient n-octanol/water (Log Pow)	No data available
Partition coefficient n-octanol/water (Log Kow)	No data available
Viscosity, dynamic	No data available
Explosive properties	Fire or projection hazard.
Oxidising properties	No data available
Explosive limits	No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

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### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Open flame. Overheating.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Nitrogen oxides.

## 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)

diphenylamine (122-39-4)	
LD50 oral rat	> 800 mg/kg bodyweight (Rat, Male, Experimental value, Oral)

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

Reproductive toxicity	Not classified
STOT-single exposure	Not classified

STOT-repeated exposure	Not classified
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Aspiration hazard	Not classified
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Potential adverse human health effects and symptoms	Based on available data, the classification criteria are not met. 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.
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## 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

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Hazardous to the aquatic environment, long-term (chronic)

Not classified

Other information

Avoid release to the environment.

<b>glycerol trinitrate (55-63-0)</b>	
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

<b>diphenylamine (122-39-4)</b>	
EC50 Daphnia 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)

### 12.2. Persistence and degradability

<b>DX-Cartridge Clean-Tec</b>	
Persistence and degradability	Not established.

<b>glycerol trinitrate (55-63-0)</b>	
Not rapidly degradable	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	53.6 g O <sub>2</sub> /g substance

<b>diphenylamine (122-39-4)</b>	
Not rapidly degradable	
Persistence and degradability	Not readily biodegradable in water.
ThOD	2.39 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

<b>DX-Cartridge Clean-Tec</b>	
Bioaccumulative potential	Not established.

<b>glycerol trinitrate (55-63-0)</b>	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

<b>diphenylamine (122-39-4)</b>	
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)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

<b>DX-Cartridge Clean-Tec</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	71.8 mN/m (20 °C, 90 %, EU Method A.5: Surface tension)
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)
Ecology - soil	Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation.

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### 12.5. Results of PBT and vPvB assessment

Component	
glycerol trinitrate (55-63-0)	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

### 12.6. Other adverse effects





Ozone	Not classified
Other adverse effects	No additional information available

## SECTION 13: Disposal considerations

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	If possible use up the cartridges or store it 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 / IATA / IMDG / RID

ADR	IMDG	IATA	RID
<b>14.1. UN number</b>			
UN 0014	UN 0014	UN 0014	UN 0014
<b>14.2. UN proper shipping name</b>			
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, (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
<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

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

#### Transport by sea

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

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. National regulations

No additional information available

### 15.2. International Regulations

No additional information available

### 15.3 Chemical inventory status

Australia AICS	No
Canada DSL	Yes
Canada NDSL	No
China IECSC	No
EU EINECS	No
EU ELINCS	No
EU NLP	No
Korea ECL	No
US TSCA	Yes

## SECTION 16: Other information

SDS\_SG\_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.*