DX-Cartridge Clean-Tec

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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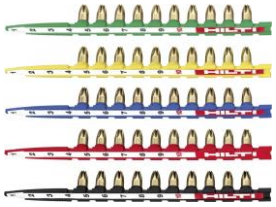
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Article

Product name: DX-Cartridge Clean-Tec

Product code: BU Direct Fastening



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

1.2.1. Relevant identified uses

Industrial/Professional use spec: For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
Hilti (Gt. Britain) Ltd.
1 Trafford Wharf Road
Trafford Park
M17 1BY Manchester - Great Britain
T +44 161 886 1000
0800 886 100 Toll-free - F +44 161 872 1240
gbsales@hilti.com

Department issuing data specification sheet
Hilti Entwicklungsgesellschaft mbH
Hiltistrasse 6
86916 Kaufering - Deutschland
T +49 8191 906310 - F +49 8191 90176310
df-hse@hilti.com

1.4. Emergency telephone number

Emergency number: Schweizerisches Toxikologisches Informationszentrum – 24h Service
+41 44 251 51 51 (international)
+44 161 886 1000
0800 886 100 Toll-free

Country	Organisation/Company	Address	Emergency number
United Kingdom	National Poisons Information Service (NPIS) City Hospital	Dudley Road B18 7QH Birmingham	111

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

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

Explosives, Division 1.4 H204

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

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP)

GHS01

Signal word (CLP)	Warning
Hazard statements (CLP)	H204 - Fire or projection hazard
Precautionary statements (CLP)	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P240 - Ground/bond container and receiving equipment P250 - Do not subject to shock P280 - Wear eye protection P370+P380 - In case of fire: evacuate area P372 - Explosion risk in case of fire
Extra phrases	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)

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

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; black: 260
Caliber 6.8/18 (cal .27 long) green: 190; yellow: 220; blue: 300; red: 330; black: 410

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: Single base powder, containing glyceroltrinittate
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	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
glycerol trinitrate	(CAS No) 55-63-0 (EC No) 200-240-8 (EC Index No) 603-034-00-X	3 - 10	Unst. Expl, H200 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 STOT RE 2, H373 Aquatic Chronic 2, H411
diphenylamine	(CAS No) 122-39-4	0 - 1	Acute Tox. 3 (Oral), H301

	(EC No) 204-539-4 (EC Index No) 612-026-00-5		Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:dust,mist), H331 STOT RE 2, H373 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 first aid measures

First-aid measures after inhalation: Assure fresh air breathing. 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.

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.

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. Advice for firefighters

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

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 contamined 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

diphenylamine (122-39-4)		
United Kingdom	Local name	Diphenylamine
United Kingdom	WEL TWA (mg/m³)	10 mg/m³
United Kingdom	WEL STEL (mg/m³)	20 mg/m³

8.2. Exposure controls

Personal protective equipment	Avoid all unnecessary exposure. Safety glasses. Protective clothing.
Eye protection	Safety glasses
Skin and body protection	When using setting tools, sufficient ear protection must be worn.

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
Colour	According to product specification.
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
Log Pow	No data available
Viscosity, kinematic	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.

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	685 mg/kg

diphenylamine (122-39-4)	
LD50 oral	1120 mg/kg

Skin corrosion/irritation	Not classified
Additional information	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Not classified
Additional information	Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	Not classified
Additional information	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
Reproductive toxicity	Not classified
Additional information	Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	Not classified
Additional information	Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	Not classified
Additional information	Based on available data, the classification criteria are not met
Aspiration hazard	Not classified
Additional information	Based on available data, the classification criteria are not met
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.

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.
Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified

glycerol trinitrate (55-63-0)	
LC50 fish 1	2.1 mg/l (96 h; Pimephales promelas)
EC50 Daphnia 1	25 mg/l (168 h; Daphnia magna)
LC50 fish 2	1.3 mg/l (96 h; Lepomis macrochirus)
ErC50 (algae)	0.4 mg/l
NOEC chronic fish	0.03 mg/l
Threshold limit algae 1	> 6.5 mg/l (Scenedesmus quadricauda)

diphenylamine (122-39-4)	
LC50 fish 1	> 20 mg/l (48 h; Leuciscus idus)
EC50 Daphnia 1	2.3 mg/l (24 h; Daphnia magna)
LC50 fish 2	2.2 - 5.1 mg/l (48 h; Oryzias latipes)
ErC50 (algae)	0.36 mg/l
Threshold limit other aquatic organisms 1	1000 mg/l (24 h; Pseudomonas fluorescens)
Threshold limit algae 1	0.048 mg/l (72 h; Scenedesmus subspicatus; Inhibitory)

12.2. Persistence and degradability

DX-Cartridge Clean-Tec	
Persistence and degradability	Not established.

glycerol trinitrate (55-63-0)	
Persistence and degradability	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

12.3. Bioaccumulative potential

DX-Cartridge Clean-Tec	
Bioaccumulative potential	Not established.

glycerol trinitrate (55-63-0)	
Log Pow	1.62
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

diphenylamine (122-39-4)	
BCF fish 1	51 - 253 (Cyprinus carpio; Test duration: 8 weeks)
Log Pow	3.22 - 3.50
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

diphenylamine (122-39-4)	
Surface tension	0.03 N/m (60 °C)
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information: Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment 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 du to risk of explosion. European waste catalogue: 16 04 01* - waste ammunition. Strips with complete discharged cartridges may be disposed of as household or factory waste. European waste catalogue: 20 03 01 - mixed municipal waste.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IATA / IMDG / RID

Other information: No supplementary information available

ADR	IMDG	IATA	RID
14.1. UN number			
0014	0014	0014	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, (E)	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

Special provisions (ADR)	364
Limited quantities (ADR)	5kg
Packing instructions (ADR)	P130
Mixed packing provisions (ADR)	MP23, MP24
Tunnel restriction code (ADR)	E

- 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 segregation (IMDG)	Protected from sources of heat
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
Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no substance on the REACH candidate list

15.1.2. National regulations

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Expl. 1.4	Explosives, Division 1.4
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
Unst. Expl	Explosives, Unstable explosives
H200	Unstable explosives
H204	Fire or projection hazard
H300	Fatal if swallowed
H301	Toxic if swallowed
H310	Fatal in contact with skin
H311	Toxic in contact with skin
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

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