

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

- **Product identifier**
- **Trade name: DX Cartridge Clean-Tec**
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the preparation** Cartridges for technical purpose
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Hilti (Gt. Britain) Ltd.  
1 Trafford Wharf Road  
Trafford Park  
GB-M17 1BY Manchester  
Phone: 0800 886 100 (Freephone)  
Fax: 0800 886 200 (Freefax)  
Email: gbsales@hilti.com
- **Informing department:**  
df-hse@hilti.com  
see section 16
- **Emergency telephone number:**  
Schweizerisches Toxikologisches Informationszentrum - 24 h Service  
Tel.: 0041 / 44 251 51 51 (international)
- Hilti (Gt. Britain) Ltd  
Phone: 0800 886 100 (Freephone)  
Fax: 0800 886 200 (Freefax)

## 2 Hazards identification

- **Classification of the substance or mixture**  
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.
- **Classification according to Regulation (EC) No 1272/2008**



GHS01 exploding bomb

Expl. 1.4 H204 Fire or projection hazard.

- **Additional information:**  
Category of the pyrotechnic article: other pyrotechnic articles Cat. P1  
(BAM EC-Type-Examination Certificate No. 0589.PYR.3802/12 or 0589.PYR.3798/12 respectively)

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS01

- **Signal word** Warning
- **Hazard statements**  
H204 Fire or projection hazard.
- **Precautionary statements**  
P210 Keep away from heat. - No smoking.  
P250 Do not subject to grinding/shock/friction.  
P280 Wear eye protection / face protection.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:**

Mixture of the substances listed below with harmless additions.

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

- **Dangerous components:**

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 glyceroltrinitrate

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.

CAS: 55-63-0 EINECS: 200-240-8	glycerol trinitrate ⚠ Unst. Expl., H200; ⚠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ⚠ STOT RE 2, H373; ⚠ Aquatic Chronic 2, H411; Flam. Liq. 2, H225	3-<25%
CAS: 122-39-4 EINECS: 204-539-4	diphenylamine ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ STOT RE 2, H373; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0-1%

- **Additional information**

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.

### 4 First aid measures

- **Description of first aid measures**
- **General information** First aid measures only required by release of ingredients or generation of decomposition products.
- **After inhalation** Take affected persons into the open air and position comfortably
- **After skin contact** Instantly wash with water and soap and rinse thoroughly. If skin irritation persist, call a physician.
- **After eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **After swallowing**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; immediately call for medical help.
- **Information for doctor**  
If decomposition products are inhaled the following symptoms can occur:  
Unconsciousness, Impaired consciousness, Cyanosis (only CO<sub>2</sub>), Vomiting, Cardiac arrhythmias, Headache, Spasms, Circulatory collapse, Dizziness, Impairment of vision, Nausea
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
Monitor circulation, possible shock treatment.  
Possibly oxygen respiration treatment  
If blue colouring appears (lips, ear-lobes, finger-nails), oxygen respiration treatment as quickly as possible.  
In cases of irritation to the lungs, initial treatment with Dexametason metered aerosol.

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** Water spray, carbon dioxide (CO<sub>2</sub>), carbon dioxide blanket, foam, or dry powder.
- **For safety reasons unsuitable extinguishing agents** Not applicable
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**  
In the event of fire, wear self contained breathing apparatus  
EN 12941 / EN 12942



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## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  - Keep away from ignition sources
  - Remove persons from danger area.
  - Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.
- **Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **Methods and material for containment and 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.
- **Reference to other sections**
  - See Section 7 for information on safe handling
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for information on disposal.

## 7 Handling and storage

- **Handling**
- **Precautions for safe handling**
  - No special precautions necessary if used correctly.
  - Provide sufficient air exchange and/or exhaust in work rooms. When using, do not eat, drink or smoke. Ingestion, exposure to skin and eyes and inhalation of any general vapours should be avoided.
- **Information about protection against explosions and fires:**
  - Protect against electrostatic charges.
  - Keep ignition sources away - Do not smoke.
  - Prevent impact and friction.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
  - Store only in the original container.
  - Keep in a cool, dry and dark place; 5 °C to 25 °C.
- **Information about storage in one common storage facility:**
  - Store away from flammable substances.
  - Store away from foodstuffs.
- **Further information about storage conditions:**
  - Store in a locked cabinet or with access restricted to technical experts or their assistants.
  - Protect from humidity and keep away from water.
- **Storage class 1**
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

<b>122-39-4 diphenylamine</b>	
WEL (Great Britain)	Short-term value: 20 mg/m <sup>3</sup> Long-term value: 10 mg/m <sup>3</sup>

- **Ingredients with biological limit values:**

<b>55-63-0 glycerol trinitrate</b>	
BMGV (Great Britain)	15 µmol/mol creatinine Medium: urine Sampling time: at the end of the period of exposure Parameter: total nitroglycols

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· CAS No. Designation of material % Type Value Unit

 · **Additional Occupational Exposure Limit Values for possible hazards during processing:**
**630-08-0 carbon monoxide**

WEL (Great Britain)	Short-term value: 232 mg/m <sup>3</sup> , 200 ppm
	Long-term value: 35 mg/m <sup>3</sup> , 30 ppm BMGV

**124-38-9 carbon dioxide**

WEL (Great Britain)	Short-term value: 27400 mg/m <sup>3</sup> , 15000 ppm
	Long-term value: 9150 mg/m <sup>3</sup> , 5000 ppm
IOELV (EU)	Long-term value: 9000 mg/m <sup>3</sup> , 5000 ppm

 · **Additional information:** The lists that were valid during the compilation were used as basis.

 · **Exposure controls**

 · **Personal protective equipment**

 · **General protective and hygienic measures**

Do not eat, drink or smoke while working.

The usual precautionary measures should be adhered to general rules for handling chemicals.

Wash hands during breaks and at the end of the work.

 · **Breathing equipment:** Not required.

 · **Protection of hands:** Not required.

 · **Material of gloves:** Not applicable

 · **Penetration time of glove material:** Not required.

 · **Eye protection:**


Safety glasses

EN 166 / EN 170

 · **Body protection:**


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

## 9 Physical and chemical properties

 · **Information on basic physical and chemical properties**

 · **General Information**

 · **Appearance:**

Form: Solid.

Colour: According to product specification

 · **Odour:** Not determined

 · **Odour threshold:** Not applicable

 · **pH-value:** Not applicable.

 · **Change in condition**

Melting point/Melting range: Not determined

Boiling point/Boiling range: Not determined

 · **Flash point:** Not applicable

 · **Inflammability (solid, gaseous)** Not determined.

 · **Ignition temperature:** Not determined

 · **Decomposition temperature:** Not determined.

 · **Self-inflammability:** Product is not selfigniting.

 · **Danger of explosion:** Not determined.

 · **Critical values for explosion:**

Lower: Not determined.

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· <b>Upper:</b>	Not determined.
· <b>Vapour pressure:</b>	Not applicable.
· <b>Density</b>	Not determined
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Not applicable
· <b>Partition coefficient (n-octanol/water):</b>	Not applicable
· <b>Viscosity:</b>	
· <b>dynamic:</b>	Not applicable.
· <b>kinematic:</b>	Not applicable.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
Temperatures > 150 °C  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
acids  
alkalis (caustic solutions).
- **Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)

## 11 Toxicological information

- **Information on toxicological effects**  
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 toxicity:**
- **Primary irritant effect:**  
· **on the skin:** No irritant effect.  
· **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effect known.

## 12 Ecological information

- **Toxicity**  
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.
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Generally not hazardous for water.  
Do not allow product to reach ground water, water bodies or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.


**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation**  
For disposal, local regulations issued by the authorities must be observed.  
Stripes with complete discharged cartridges may be disposed of as household or factory waste.

- **European waste catalogue**  
16 04 01\* waste ammunition

- **Uncleaned packagings:**
- **Recommendation:** Non contaminated packagings can be used for recycling.

**14 Transport information**

- |   |   |
|---|---|
| · <b>UN-Number</b>  | UN0323                                      |
| · <b>ADR, IMDG, IATA</b>  | UN0323                                      |
| · <b>UN proper shipping name</b>  | UN0323 cartridge, power device              |
| · <b>ADR</b>  | UN0323 cartridge, power device              |
| · <b>IMDG, IATA</b>   | Cartridge, power device                     |
| · <b>Transport hazard class(es)</b>   |   |
| · <b>ADR, IATA</b>  |   |
|  |   |
| · <b>Class</b>  | 1 Explosive substances and articles.        |
| · <b>Label</b>  | 1.4   |
| · <b>IMDG</b>   |   |
| · <b>Class</b>  | 1 Explosive substances and articles.        |
| · <b>Packing group</b>  | Void  |
| · <b>ADR, IMDG, IATA</b>  | Void  |
| · <b>Environmental hazards:</b>   |   |
| · <b>Marine pollutant:</b>  | No  |
| · <b>Special precautions for user</b>   | Warning: Explosive substances and articles. |
| · <b>Kemler Number:</b>   | -   |
| · <b>EMS Number:</b>  | F-B,S-X                                     |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>    | Not applicable.                             |
| · <b>UN "Model Regulation":</b>   | UN0323, cartridge, power device, 1.4S       |

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
- **Chemical safety assessment:** not required.

**16 Other information**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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**· Relevant phrases**

H200 Unstable explosives.  
H225 Highly flammable liquid and vapour.  
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.

**· Department issuing data specification sheet:**

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**· Contact:** Mechthild Krauter**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)

**· \* Data compared to the previous version altered.**