

DX-Cartridge Clean-Tec

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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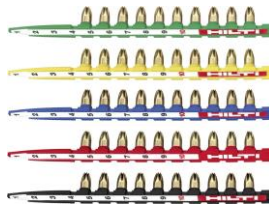
Supersedes: 05/18/2015

Version: 3.3

SECTION 1: Identification

1.1. Identification

| | |
|--------------------|------------------------|
| Product form | Article |
| Name | DX-Cartridge Clean-Tec |
| Product code | BU Direct Fastening |
| Chemical structure | |



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

No additional information available

1.3. Details of the supplier of the safety data sheet

| | |
|--|--|
| Supplier Hilti, Inc. Legacy Tower, Suite 1000 75024 Plano - USA T +1 9724035800 1-800-879-8000 toll free - F +1 918 254 0522 | 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 | Chem-Trec Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada) Tel.: 703 527 3887 (Other countries) +1 918 8723000 1-800-879-8000 toll free |
|------------------|---|

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

GHS-US classification
Expl. 1.4 H204 - Fire or projection hazard
Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling
Hazard pictograms (GHS-US)



GHS01

Signal word (GHS-US) **Warning**

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| | |
|-----------------------------------|--|
| Hazard statements (GHS-US) | H204 - Fire or projection hazard |
| Precautionary statements (GHS-US) | P210 - Keep away from heat. - No smoking P250 - Do not subject to shock P280 - Wear eye protection |

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|---------------------|--------------------|--------|--|
| glycerol trinitrate | (CAS No) 55-63-0 | 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 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 | Allow breathing of 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 persist. |
| 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/injuries | 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

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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 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 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 |
| Prohibitions on mixed storage | KEEP SUBSTANCE AWAY FROM: highly flammable materials. ignition sources. |
| Storage area | Store away from heat. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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| glycerol trinitrate (55-63-0) | | |
|-------------------------------|---|-------------------------------------|
| ACGIH | ACGIH TWA (ppm) | 0.05 ppm |
| ACGIH | ACGIH STEL (ppm) | 0.05 ppm |
| ACGIH | Remark (ACGIH) | Vasodilation |
| OSHA | OSHA PEL (Ceiling) (mg/m ³) | 2 mg/m ³ |
| OSHA | OSHA PEL (Ceiling) (ppm) | 0.2 ppm |
| diphenylamine (122-39-4) | | |
| ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ |
| ACGIH | Remark (ACGIH) | Liver & kidney dam; hematologic eff |

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 | 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(s): No data available on odour Pleasant odour Floral odour |
| Odour threshold | No data available |
| pH | No data available |
| Melting point | No data available |
| Freezing point | No data available |
| Boiling point | No data available |
| Flash point | No data available |
| Relative evaporation rate (butylacetate=1) | No data available |
| Flammability (solid, gas) | No data available |
| Explosive limits | No data available |
| Explosive properties | Fire or projection hazard. |
| Oxidising properties | No data available |
| Vapour pressure | No data available |
| Relative density | No data available |
| Relative vapour density at 20 °C | No data available |
| Solubility | No data available |
| Log Pow | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity | No data available |
| Viscosity, kinematic | No data available |

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Viscosity, dynamic 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 Not classified

| glycerol trinitrate (55-63-0) | |
|--------------------------------------|--------------------------|
| ATE US (oral) | 5.000 mg/kg bodyweight |
| ATE US (dermal) | 5.000 mg/kg bodyweight |
| ATE US (dust,mist) | 0.050 mg/l/4h |
| diphenylamine (122-39-4) | |
| ATE US (oral) | 100.000 mg/kg bodyweight |
| ATE US (dermal) | 300.000 mg/kg bodyweight |
| ATE US (dust,mist) | 0.500 mg/l/4h |

| | |
|--|--|
| Skin corrosion/irritation | Not classified |
| Serious eye damage/irritation | Not classified |
| Respiratory or skin sensitisation | Not classified |
| Germ cell mutagenicity | Not classified |
| | Based on available data, the classification criteria are not met |
| Carcinogenicity | Not classified |
| Reproductive toxicity | Not classified |
| | Based on available data, the classification criteria are not met |
| Specific target organ toxicity (single exposure) | Not classified |
| Specific target organ toxicity (repeated exposure) | Not classified |
| 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.

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.

| 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) |
| 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) |
| 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. |

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12.5. Other adverse effects

Effect on the global warming No known ecological damage caused by this product.

Other information Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods





Waste disposal recommendations Dispose in a safe manner in accordance with local/national regulations. Refer to manufacturer/supplier for information on recovery/recycling.

Additional information Hazardous waste due to potential risk of explosion.

Ecology - waste materials Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

| ADR | IMDG | IATA | RID |
|---|---|---|---|
| 14.1. UN number | | | |
| 0323 | 0323 | 0323 | 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 | | |
| 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) 347

Limited quantities (ADR) 0

Packing instructions (ADR) P134, LP102

Mixed packing provisions (ADR) MP23

Tunnel restriction code (ADR) E

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- Transport by sea

| | |
|--------------------------------|--------------------------------|
| Special provisions (IMDG) | 347 |
| Limited quantities (IMDG) | 0 |
| Packing instructions (IMDG) | P134, LP102 |
| 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) | 134 |
| PCA max net quantity (IATA) | 25kg |
| Special provisions (IATA) | A165 |

- Rail transport

| | |
|----------------------------|-------------|
| Special provisions (RID) | 347 |
| Limited quantities (RID) | 0 |
| Packing instructions (RID) | P134, LP102 |
| Carriage prohibited (RID) | No |

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

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

| | | |
|---------------------|-----------------|---------|
| glycerol trinitrate | CAS No 55-63-0 | 3 - 10% |
| diphenylamine | CAS No 122-39-4 | 0 - 1% |

| | | |
|---|--|--|
| glycerol trinitrate (55-63-0) | | |
| Subject to reporting requirements of United States SARA Section 313 | | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 10 lb | |
| diphenylamine (122-39-4) | | |
| Subject to reporting requirements of United States SARA Section 313 | | |
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. | |

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

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

Expl. 1.4 H204

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

National regulations

No additional information available

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15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date

02/12/2016

Full text of H-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 |

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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