

DX-Cartridge

Safety Data Sheet

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

Date of issue: 02/08/2018

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Supersedes: 04/12/2017

Version: 2.5

SECTION 1: Identification

1.1. Identification

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

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

| | |
|------------------------------|-----------------------------|
| Use of the substance/mixture | CARTRIDGES FOR TOOLS, BLANK |
|------------------------------|-----------------------------|

1.3. Details of the supplier of the safety data sheet

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supplier Hilti, Inc. Legacy Tower, Suite 1000 7250 Dallas Parkway 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

Hazard statements (GHS-US)

H204 - Fire or projection hazard.

Precautionary statements (GHS-US)

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

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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. Substances

Not applicable

3.2. Mixtures

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

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: Single base powder, containing glyceroltrinitrate

Mass per cartridge: essentially dependent on the required power (100-400 mg)

Priming composition: SINOXID (initiating explosive) Mass per cartridge: 22-33 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 | % | 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 |
| Barium nitrate | (CAS-No.) 10022-31-8 | 0 - 5 | Acute Tox. 4 (Oral), H302 |
| lead styphnate | (CAS-No.) 15245-44-0 | 0,1 - 5 | Unst. Expl, H200 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Repr. 1A, H360 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 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 |
| Tetrazen | (CAS-No.) 109-27-3 | 0 - 0.2 | Unst. Expl, H200 Eye Irrit. 2A, H319 |

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. |

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First-aid measures after ingestion Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

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

4.3. Immediate medical attention and special treatment, if necessary

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 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.

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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. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| glycerol trinitrate (55-63-0) | | |
|-------------------------------|-----------------------------------------|-------------------------------------|
| ACGIH | ACGIH TWA (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 |
| lead styphnate (15245-44-0) | | |
| Not applicable | | |
| Barium nitrate (10022-31-8) | | |
| ACGIH | ACGIH TWA (mg/m ³) | 0.5 mg/m ³ |
| diphenylamine (122-39-4) | | |
| ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ |
| ACGIH | Remark (ACGIH) | Liver & kidney dam; hematologic eff |
| Tetrazen (109-27-3) | | |
| Not applicable | | |

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. |

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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: Sweet odour Pleasant odour Floral odour Odourless |
| 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 |
| 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.

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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) | |
| LD50 oral rat | 685 mg/kg bodyweight (Rat, Male/female, Experimental value) |
| LD50 dermal rat | > 9560 mg/kg bodyweight (Equivalent or similar to OECD 402, Rat, Male/female, Experimental value) |
| ATE US (oral) | 5 mg/kg bodyweight |
| ATE US (dermal) | 5 mg/kg bodyweight |
| ATE US (dust,mist) | 0.05 mg/l/4h |
| lead styphnate (15245-44-0) | |
| ATE US (oral) | 500 mg/kg bodyweight |
| ATE US (dust,mist) | 1.5 mg/l/4h |
| Barium nitrate (10022-31-8) | |
| LD50 oral rat | 50 - 300 mg/kg bodyweight (Rat, Female, Experimental value) |
| LC50 inhalation rat (mg/l) | > 1.1 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male/female, Experimental value) |
| ATE US (oral) | 355 mg/kg bodyweight |
| diphenylamine (122-39-4) | |
| ATE US (oral) | 100 mg/kg bodyweight |
| ATE US (dermal) | 300 mg/kg bodyweight |
| ATE US (dust,mist) | 0.5 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 |
| STOT-single exposure | Not classified |
| | |
| STOT-repeated exposure | Not classified |
| | |
| Aspiration hazard | Not classified |
| 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.

| 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) |
| ErC50 (algae) | 0.4 mg/l |
| NOEC chronic fish | 0.03 mg/l |
| lead styphnate (15245-44-0) | |
| EC50 Daphnia 1 | 7 mg/l |
| TLM fish 1 | 7.48 mg/l (96 h, Pimephales promelas) |
| Barium nitrate (10022-31-8) | |
| LC50 fish 1 | 1900 mg/l |
| diphenylamine (122-39-4) | |
| LC50 fish 1 | 2.2 - 5.1 mg/l (48 h, Oryzias latipes) |
| EC50 Daphnia 1 | 2.3 mg/l (24 h, Daphnia magna) |
| NOEC chronic algae | 0.0273 mg/l |
| Tetrazen (109-27-3) | |
| EC50 Daphnia 1 | 0.14 mg/l |

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 |
| Barium nitrate (10022-31-8) | |
| Persistence and degradability | Biodegradability: not applicable. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |
| 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 | |
|--------------------------------------|--------------------------------------------------|
| Bioaccumulative potential | Not established. |
| glycerol trinitrate (55-63-0) | |
| Log Pow | 2.04 (Experimental value, 21 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |
| Barium nitrate (10022-31-8) | |
| Bioaccumulative potential | Not bioaccumulative. |

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| 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

| glycerol trinitrate (55-63-0) | |
|-------------------------------|---------------------------------------------------------------|
| Log Koc | 2.63 - 2.91 (log Koc, Calculated value) |
| Ecology - soil | Low potential for adsorption in soil. |
| Barium nitrate (10022-31-8) | |
| Ecology - soil | No (test) data on mobility of the substance available. |
| 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. Other adverse effects

Other 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.

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, (E) | UN 0323 CARTRIDGES, POWER DEVICE, 1.4S | UN 0323 Cartridges, power device, 1.4S | 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 |

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| ADR | IMDG | IATA | RID |
|----------------------------------------|----------------------------------------------------------------|---------------------------------------|---------------------------------------|
| 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 |

- 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 |
| CAO packing instructions (IATA) | 134 |
| 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% |

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| | |
|---------------------------------------------------------------------|-------|
| glycerol trinitrate (55-63-0) | |
| Subject to reporting requirements of United States SARA Section 313 | |
| CERCLA RQ | 10 lb |
| SARA Section 313 - Emission Reporting | 1 % |

| | |
|---------------------------------------------------------------------|-----|
| diphenylamine (122-39-4) | |
| Subject to reporting requirements of United States SARA Section 313 | |
| SARA Section 313 - Emission Reporting | 1 % |

15.2. International regulations

CANADA

| |
|------------------------------------------------------------|
| 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) |
| Barium nitrate (10022-31-8) |
| Listed on the Canadian DSL (Domestic Substances List) |
| diphenylamine (122-39-4) |
| Listed on the Canadian DSL (Domestic Substances List) |
| Tetrazen (109-27-3) |
| Listed on the Canadian NDSL (Non-Domestic Substances List) |

EU-Regulations

No additional information available

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

Expl. 1.4 H204

Full text of H statements : see section 16

15.1.1. EU-Regulations

Contains one substance (s) from the list of candidate substances of REACH in a concentration > 0,1%: Lead styphnate (EC 239-290-0, CAS 15245-44-0)

15.3. US State regulations

This product can expose you to chemicals including lead, which is known to the State of California to cause cancer, and which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

| Lead compounds | | | | |
|-------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) |
| Yes | Yes | Yes | Yes | |

SECTION 16: Other information

Revision date

04/12/2017

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Full text of H-statements:

| | |
|------|--------------------------------------------------------------------|
| H200 | Unstable explosives. |
| H300 | Fatal if swallowed. |
| H301 | Toxic if swallowed. |
| H302 | Harmful 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. |
| H332 | Harmful if inhaled. |
| H360 | May damage fertility or the unborn child. |
| 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. |

NFPA health hazard

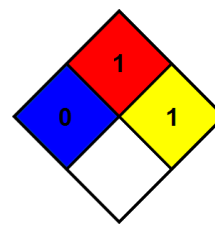
0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

1 - Materials that must be preheated before ignition can occur.

NFPA reactivity

1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Indication of changes:

| Section | Changed item | Change | Comments |
|---------|--------------|----------|----------|
| 3 | Comments | Modified | |

SDS_US_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