

DX-Cartridge

Safety Data Sheet

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

Revision date: 5/31/2024 Issue date: 5/31/2024 Supersedes: 3/18/2024 Version: 3.1

SECTION 1: Identification

1.1. Identification

Product form	Article
Name	DX-Cartridge
Product code	BU Direct Fastening

1.2. Recommended use and restrictions on use

Recommended use	CARTRIDGES FOR TOOLS, BLANK
Restrictions on use	For professional use only

1.3. Supplier

Supplier

Hilti, Inc.
Legacy Tower, Suite 1000
7250 Dallas Parkway
Plano, TX 75024
USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
Schaan, 9494
Liechtenstein
T +423 234 2111
product.compliance-direct.fastening@hilti.com

1.4. Emergency telephone number

Emergency number	Emergency CONTACT (24-Hour-Number) GBK/Infotrac ID 101022 (USA domestic) 1 800 535 5053 or international (001) 352 323 3500
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Explosives, Division 1.4	H204	Fire or projection hazard.
Full text of H-statements: see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US)



Signal word (GHS US)
Hazard statements (GHS US)
Precautionary statements (GHS US)

Warning
H204 - Fire or projection hazard.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P250 - Do not subject to shock, friction, grinding.
P280 - Wear eye protection.

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P370+P380+P375 - In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P372 - Explosion risk in case of fire.
P401 - Store in accordance with local regulations on explosives.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification

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). This article contains hazardous substances or preparations not intended to be released under normal or reasonably foreseeable conditions of use. The dismantling of the article is prohibited!. Keep away from ignition sources (including static discharges).

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments

max. net explosives weight each cartridge in mg:
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: glycerol trinitrate containing nitrocellulose powder
Mass per cartridge: essentially dependent on the required power (100-400 mg)
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
copper	CAS-No.: 7440-50-8	50 – 65	Not classified
zinc	CAS-No.: 7440-66-6	15 – 32	Not classified
cellulose nitrate	CAS-No.: 9004-70-0	5 – 21	Expl. 1.1, H201
glycerol trinitrate	CAS-No.: 55-63-0	2 – 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
barium nitrate	CAS-No.: 10022-31-8	0.1 – 3	Ox. Sol. 2, H272 Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319

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Name	Product identifier	%	GHS-US classification
lead styphnate	CAS-No.: 15245-44-0	0.1 – 3	Unst. Expl., H200 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Repr. 1A, H360 STOT RE 2, H373
tetrazene	CAS-No.: 109-27-3	0 – 1	Unst. Expl., H200 Eye Irrit. 2A, H319
diphenylamine	CAS-No.: 122-39-4	0.1 – 1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Eye Irrit. 2A, H319 Carc. 2, H351 STOT RE 2, H373

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

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	In all cases of doubt, or when symptoms persist, seek medical attention.
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe 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 persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.
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4.3. Immediate medical attention and special treatment, if necessary

No additional information available.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire	Carbon monoxide. Carbon dioxide (CO ₂). Nitrous gasses.
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5.3. Special protective equipment and precautions for 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 to 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.
Storage temperature 5 – 25 °C
Information on mixed storage Keep away from : Ignition sources. Do not store with: Store according to local legislation.
Storage area Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DX-Cartridge	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	1 mg/m ³ (Dusts and mists (as Cu))

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zinc (7440-66-6)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	2 mg/m ³
copper (7440-50-8)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Copper, as Cu
ACGIH OEL TWA	0.2 mg/m ³ (Fume) 1 mg/m ³ (Dusts and mists)
Remark (ACGIH)	TLV® Basis: Irr; GI; metal fume fever
Regulatory reference	ACGIH 2024
USA - OSHA - Occupational Exposure Limits	
Local name	Copper
OSHA PEL TWA	0.1 mg/m ³ (Fume (as Cu)) 1 mg/m ³ (Dusts and mists (as Cu))
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
cellulose nitrate (9004-70-0)	
No additional information available	
tetrazene (109-27-3)	
No additional information available	
barium nitrate (10022-31-8)	
No additional information available	
diphenylamine (122-39-4)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Diphenylamine
ACGIH OEL TWA	10 mg/m ³
Remark (ACGIH)	Liver & kidney dam; hematologic eff
Regulatory reference	ACGIH 2024
lead styphnate (15245-44-0)	
No additional information available	
glycerol trinitrate (55-63-0)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Nitroglycerin (NG)
ACGIH OEL TWA	0.05 ppm
Remark (ACGIH)	Vasodilation
Regulatory reference	ACGIH 2024

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glycerol trinitrate (55-63-0)	
USA - OSHA - Occupational Exposure Limits	
Local name	Nitroglycerin
OSHA PEL C	2 mg/m ³
	0.2 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls No additional information available.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

When using cartridge operated tools, sufficient ear protection must be worn.

Hand protection:
Not required for normal conditions of use
Eye protection:
Wear closed safety glasses. ISO 16321-1
Skin and body protection:
When using cartridge operated tools, sufficient ear protection must be worn.
Respiratory protection:
Respiratory protection not required in normal conditions

Personal protective equipment symbol(s):



Thermal hazard protection:

No information available.

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
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available

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Relative evaporation rate (butylacetate=1)	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
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive limits	No data available
Explosive properties	Fire or projection hazard.
Oxidising properties	No data available

9.2. Other information

Additional information	Not applicable Article
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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

Risk of explosion by shock, friction, fire or other sources of ignition. Heating may cause an explosion. At high temperatures : > 150 °C Response.

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

Carbon monoxide. Carbon dioxide. Nitrogen oxides. Metal oxides. Thermal decomposition can lead to the release of irritating gases and vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)

barium nitrate (10022-31-8)	
LD50 oral	355 mg/kg
ATE US (gases)	4500 ppmv/4h

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barium nitrate (10022-31-8)	
ATE US (vapours)	11 mg/l/4h
ATE US (dust,mist)	1.5 mg/l/4h
diphenylamine (122-39-4)	
LD50 oral rat	> 800 mg/kg bodyweight
LD50 oral	2480 mg/kg
LD50 dermal	5000 mg/kg
ATE US (gases)	700 ppmv/4h
ATE US (vapours)	3 mg/l/4h
ATE US (dust,mist)	0.5 mg/l/4h
lead styphnate (15245-44-0)	
LD50 oral rat	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat (Dust/Mist)	> 5.05 mg/l/4h (OECD 403 method)
ATE US (oral)	500 mg/kg bodyweight
ATE US (dust,mist)	1.5 mg/l/4h
glycerol trinitrate (55-63-0)	
LD50 oral	685 mg/kg
LD50 dermal rat	> 9560 mg/kg bodyweight (OECD 402 method)
ATE US (dust,mist)	0.05 mg/l/4h
Skin corrosion/irritation	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation	Not classified (Based on available data, the classification criteria are not met) (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) (Based on available data, the classification criteria are not met)
Carcinogenicity	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
diphenylamine (122-39-4)	
IARC group	2B - Possibly carcinogenic to humans
Reproductive toxicity	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
STOT-single exposure	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
STOT-repeated exposure	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
diphenylamine (122-39-4)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

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lead styphnate (15245-44-0)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
glycerol trinitrate (55-63-0)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified (Based on available data, the classification criteria are not met) (Based on available data, the classification criteria are not met)
Viscosity, kinematic	No data available
Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.

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.
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zinc (7440-66-6)	
LC50 - Fish [1]	169 µg/l (96h; Oncorhynchus Mykiss)
EC50 - Crustacea [1]	< 0.1 µg/l (48h; Ceriodaphnia dubia)
ErC50 algae	0.15 mg/l
NOEC chronic fish	26 µg/L (30 d; Jordanella floridae)
NOEC chronic crustacea	48 µg/L (21d; Daphnia magna; (OECD 211 method))

tetrazene (109-27-3)	
EC50 - Crustacea [1]	0.14 mg/l

barium nitrate (10022-31-8)	
EC50 - Crustacea [1]	9018 mg/l

diphenylamine (122-39-4)	
EC50 - Crustacea [1]	2 mg/l (48 h; Daphnia magna; (OECD 202 method))
EC50 72h - Algae [1]	2.17 mg/l (Raphidocelis subcapitata; (OECD 201 method))
NOEC chronic algae	0.0273 mg/l

lead styphnate (15245-44-0)	
LC50 - Fish [1]	0.107 mg/l (96 h; Oncorhynchus mykiss; Lead)
EC50 - Crustacea [1]	7 mg/l
NOEC chronic fish	0.0189 – 1.559 mg/l (Fish; Lead)
NOEC chronic crustacea	0.0017 – 0.496 mg/l (aquatic invertebrates; Lead)

glycerol trinitrate (55-63-0)	
LC50 - Fish [1]	1.9 – 3.58 mg/l (96 h; Oncorhynchus mykiss; ASTM Designation E 729-80)
EC50 - Crustacea [1]	17.83 mg/l (48 h; Ceriodaphnia dubia; ASTM Designation E 729-80)

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glycerol trinitrate (55-63-0)	
EC50 96h - Algae [1]	1.15 mg/l (Raphidocelis subcapitata; EPA TSCA Experimental Method 797.1060)
NOEC chronic fish	0.03 mg/l
NOEC chronic crustacea	3.23 mg/l (7 d; Ceriodaphnia dubia)

12.2. Persistence and degradability

DX-Cartridge	
Persistence and degradability	Not established.
zinc (7440-66-6)	
Not rapidly degradable	
Persistence and degradability	Not applicable for inorganic products.
copper (7440-50-8)	
Not rapidly degradable	
tetrazene (109-27-3)	
Not rapidly degradable	
barium nitrate (10022-31-8)	
Not rapidly degradable	
diphenylamine (122-39-4)	
Not rapidly degradable	
Persistence and degradability	Not readily biodegraded.
Biodegradation	26 % (28 d; (OECD 301D method))
lead styphnate (15245-44-0)	
Not rapidly degradable	
glycerol trinitrate (55-63-0)	
Not rapidly degradable	
Persistence and degradability	Inherently biodegradable.
Biodegradation	92.2 % (84 h)

12.3. Bioaccumulative potential

DX-Cartridge	
Bioaccumulative potential	Not established.
zinc (7440-66-6)	
Bioaccumulative potential	Bioaccumulation unlikely.
diphenylamine (122-39-4)	
Partition coefficient n-octanol/water (Log Kow)	3.82 (20,2 °C)

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diphenylamine (122-39-4)	
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).
lead styphnate (15245-44-0)	
BCF - Fish [1]	1.553
Partition coefficient n-octanol/water (Log Kow)	-2.19 (20 °C)
glycerol trinitrate (55-63-0)	
Bioaccumulative potential	Low bioaccumulation potential (Log Kow < 4).

12.4. Mobility in soil

diphenylamine (122-39-4)	
Surface tension	72.3 mN/m (20 °C; EU Method A.5)
glycerol trinitrate (55-63-0)	
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

Other adverse effects	No additional information available.
Other information	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
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 due to risk of explosion. European waste catalogue: 16 04 01* - waste ammunition. If possible use up the cartridges or store them 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.
Ecological information	Avoid release to the environment.

SECTION 14: Transport information





In accordance with ADR / IMDG / IATA / RID

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
UN 0014	UN 0014	UN 0014	UN 0014
14.2. UN proper shipping name			
CARTRIDGES FOR TOOLS, BLANK	CARTRIDGES FOR TOOLS, BLANK	Cartridges for tools, blank	CARTRIDGES FOR TOOLS, BLANK

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ADR	IMDG	IATA	RID
Transport document description			
UN 0014 CARTRIDGES FOR TOOLS, BLANK, 1.4S, (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
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

Classification code (ADR)	1.4S
Special provisions (ADR)	364
Limited quantities (ADR)	5kg
Excepted quantities (ADR)	E0
Packing instructions (ADR)	P130
Mixed packing provisions (ADR)	MP23, MP24
Transport category (ADR)	4
Special provisions for carriage - Loading, unloading and handling (ADR)	CV1, CV2, CV3
Special provisions for carriage - Operation (ADR)	S1
Tunnel restriction code (ADR)	E

Transport by sea

Special provisions (IMDG)	364
Limited quantities (IMDG)	5 kg
Excepted quantities (IMDG)	E0
Packing instructions (IMDG)	P130
EmS-No. (Fire)	F-B
EmS-No. (Spillage)	S-X
Stowage category (IMDG)	01
Stowage and handling (IMDG)	SW1
Properties and observations (IMDG)	See glossary of terms in appendix B.
MFAG-No	114

Air transport

PCA Excepted quantities (IATA)	E0
PCA Limited quantities (IATA)	Forbidden
PCA limited quantity max net quantity (IATA)	Forbidden

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PCA packing instructions (IATA)	130
PCA max net quantity (IATA)	25kg
CAO packing instructions (IATA)	130
CAO max net quantity (IATA)	100kg
Special provisions (IATA)	A802
ERG code (IATA)	3L

Rail transport

Classification code (RID)	1.4S
Special provisions (RID)	364
Limited quantities (RID)	5kg
Excepted quantities (RID)	E0
Packing instructions (RID)	P130, LP101
Mixed packing provisions (RID)	MP23, MP24
Transport category (RID)	4
Special provisions for carriage – Packages (RID)	W2
Special provisions for carriage - Loading, unloading and handling (RID)	CW1
Colis express (express parcels) (RID)	CE1
Hazard identification number (RID)	1.4S

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
zinc	7440-66-6	Present	Active	
copper	7440-50-8	Present	Active	
cellulose nitrate	9004-70-0	Present	Active	XU
tetrazene	109-27-3	Present	Active	
barium nitrate	10022-31-8	Present	Active	
diphenylamine	122-39-4	Present	Active	
lead styphnate	15245-44-0	Present	Active	
glycerol trinitrate	55-63-0	Present	Active	

zinc (7440-66-6)

Subject to reporting requirements of United States SARA Section 313
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ	1000 lb
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copper (7440-50-8)	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb

diphenylamine (122-39-4)	
Subject to reporting requirements of United States SARA Section 313	

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

15.2. International regulations

CANADA

zinc (7440-66-6)	
Listed on the Canadian DSL (Domestic Substances List)	

copper (7440-50-8)	
Listed on the Canadian DSL (Domestic Substances List)	

cellulose nitrate (9004-70-0)	
Listed on the Canadian DSL (Domestic Substances List)	

tetrazene (109-27-3)	
Listed on the Canadian NDSDL (Non-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)	

lead styphnate (15245-44-0)	
Listed on the Canadian DSL (Domestic Substances List)	

glycerol trinitrate (55-63-0)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

No additional information available

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National regulations

zinc (7440-66-6)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

copper (7440-50-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

cellulose nitrate (9004-70-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

barium nitrate (10022-31-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

diphenylamine (122-39-4)

Listed on IARC (International Agency for Research on Cancer)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

lead styphnate (15245-44-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

glycerol trinitrate (55-63-0)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

No additional information available

SECTION 16: Other information

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

Revision date

05/31/2024

Other information

A safety data sheet is not required for this product. This Product Safety Information Sheet has been created on a voluntary basis.

Full text of H-statements

H200	Unstable explosives.
H201	Explosive; mass explosion hazard.
H204	Fire or projection hazard.
H272	May intensify fire; oxidiser.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H302	Harmful if swallowed.

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Full text of H-statements	
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.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Abbreviations and acronyms	
CAS-No.	Chemical Abstract Service number
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DNEL	Derived-No Effect Level
EC50	Median effective concentration
ED	Endocrine disrupting properties
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
N.O.S.	Not Otherwise Specified
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

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Abbreviations and acronyms	
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
VOC	Volatile Organic Compounds
WGK	Water Hazard Class
vPvB	Very Persistent and Very Bioaccumulative
NOAEL	No-Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
LOAEL	Lowest Observed Adverse Effect Level

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.