

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

- **Product identifier**
- **Trade name:** **Hilti TwoStep Anchor N 30**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation**
Rock anchor for the stabilization of tunnels, galleries and the like in mining.

The Hilti TwoStep-Anchor is classified as an article in accordance with section 3, paragraph 5, of the EC Chemicals Bill.
The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous Materials.

- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hilti Deutschland AG
Hiltistr. 2
D-86916 Kaufering
Tel +49 8191 90-0
Fax +49 8191 90-1122
Customer Service:
Tel 0800-8885522 toll free
Fax 0800-8885523 toll free
- **Informing department:** see section 16
- **Emergency telephone number:**
Hilti Deutschland GmbH
Tel: 0049 8191 90-0
Fax: 0049 8191 90 1122

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Hilti TwoStep-Anchor is classified as an article in accordance with section 3, paragraph 5, of the EC Chemicals Bill. The product is not subject to identification regulations under EC Directives and the Ordinance on Hazardous Materials.
Although this product is not subject to identification regulations, we recommend that the safety suggestions are observed
The product is not classified as hazardous to health or environment according to the CLP regulation.

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- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** May cause an allergic skin reaction.
 - **Information concerning particular hazards for human and environment:**
The TwoStep-Anchor presents no hazards to be particularly mentioned if used correctly.
Please note the information of this Material Safety Data Sheet.

The TwoStep-Anchor forms a unit in which the constituents are contained in encapsulated form (dual foil pack) inside a steel tube. Access to the integrated foil pack and thus to the components A and B is possible only through intentional, forceful manipulation and misuse of the product.

The integrated dual foil pack contains inflammable constituents.
The inhalation of styrene vapors is harmful.
Skin contact with component B (white) may cause sensitization.
Components A and B are irritating to the eyes and skin.

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- **Label elements**
 - **Labelling according to Regulation (EC) No 1272/2008** Void
 - **Hazard pictograms** Void
 - **Signal word** Void
 - **Hazard statements** Void
 - **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing vapours.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P403+P235 Store in a well-ventilated place. Keep cool.
 - **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:**
Rock anchor with internally integrated 2-component foil pack.
The foil pack unit contains:
Unsaturated polyester resin with styrene, filler materials
Phlegmatized dibenzoyl peroxide as a paste, filler materials

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· Dangerous components:		
CAS: 100-42-5	Styrol ❗ Xn R20-48-65; ❗ Xi R36/37/38 R10 ⚠ Flam. Liq. 3, H226; ⚠ STOT RE 1, H372; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	10-25%
CAS: 94-36-0 EINECS: 202-327-6	dibenzoyl peroxide ❗ Xi R36; ❗ Xi R43; ❗ E R3; ⚠ O R7 ⚠ Org. Perox. B, H241; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317	<2,5%
CAS: 99-97-8 EINECS: 202-805-4	N,N-dimethyl-p-toluidine ⚠ T R23/24/25 R33-52/53 ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ STOT RE 2, H373; Aquatic Chronic 3, H412	<1%

 · **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **General information** No special measures required.
- **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 persists, 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.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
Sand
Water spray, carbon dioxide (CO₂), carbon dioxide blanket, foam, or dry powder.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards arising from the substance or mixture**
Can be released in case of fire
Carbon monoxide (CO)
Carbon dioxide (CO₂)
Nitrogen oxides (NO_x)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters**
- **Protective equipment:** In the event of fire, wear self contained breathing apparatus

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
wearing gloves
Wear protective clothing.
Keep away from ignition sources
- **Environmental precautions:** Do not allow to enter the ground/soil.
- **Methods and material for containment and cleaning up:**
Collect mechanically.
Remove remainders with solvent and liquid-binding material.
Dispose of the material collected according to regulations.
Ensure adequate ventilation.
- **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**
Observe expiry date.
Keep ignition sources away - Do not smoke.
Do not disassemble the TwoStep bolt
- **Information about protection against explosions and fires:**
keep away from heat and direct sunlight

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Keep ignition sources away - Do not smoke.

Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers:

Keep in a cool, dry and dark place; -20 °C to 25 °C.

Please attend to the local storage regulations for underground mining operations

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions:

Please attend to the local storage regulations for underground mining operations

Protect from heat and direct sunlight.

Storage class

As per VCI (1991) storage classification concept.

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Classification according to "Betriebssicherheitsverordnung (BetrSichV)": -
Specific end use(s) Rock anchor for stabilizing tunnels, galleries and the like.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters
Components with limit values that require monitoring at the workplace:
100-42-5 styrene

AGW (Germany)	86 mg/m ³ , 20 ppm
	2(II);DFG, Y

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

Exposure controls
Personal protective equipment
General protective and hygienic measures

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

Do not eat, drink or smoke while working.

Keep away from foodstuffs, beverages and food.

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

Avoid contact with the eyes and skin.

Take off immediately all contaminated clothing

Breathing equipment: Not required.

Protection of hands:

Protective gloves

Use gloves of stable material (e.g. Nitrile) - if necessary tricoted to improve the wearability.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed safety glasses.

Face protection

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Self drilling anchor – integrated dual foil pack inside

Colour: foil package

Polyester resin paste: dark green

Dibenzoyl peroxide paste: white

Odour: Aromatic

Odour threshold: Not determined.

pH-value: Not applicable

Change in condition
Melting point/Melting range: Not determined

Boiling point/Boiling range: 145°C

Flash point: 31°C (DIN 53213)

Inflammability (solid, gaseous) Not determined.

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· Ignition temperature:	480°C (Styrene)
· Decomposition temperature:	Not determined.
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Critical values for explosion:	
Lower:	1,2 Vol % (Styrene)
Upper:	8,9 Vol % (Styrene)
· Vapour pressure at 20°C:	7,1 hPa (Styrene)
· Density	Not determined
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Unsoluble
· Segregation coefficient (n-octanol/water):	Not determined.
· Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Non-observance of the specified storage conditions (see section 7) will lead to gradual decomposition of the dibenzoylperoxide. This will make the product unusable.
To avoid thermal decomposition do not overheat.
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:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:****100-42-5 styrene**

Oral	LD50	5000 mg/kg (rango)
Inhalative	LC50/4h	24 mg/l (rango)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** Sensitization possible by skin contact.
- **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

- **Toxicity**
- **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:**
- **According to recipe contains the following heavy metals and compounds according to EC guideline NO. 76/464 EC:** None
- **General notes:**
The product does not contain organically bounded halogens (AOX-free).
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**· **Recommendation**

Unusable anchors must be collected separately. For disposal, local regulations issued by the authorities must be observed.

Consult the manufacturer if necessary.

For disposal, local regulations issued by the authorities must be observed.

· **Uncleaned packagings:**· **Recommendation:**

Non contaminated packagings can be reused.

Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

· **UN-Number**· **ADR, ADN, IMDG, IATA**

Void

· **UN proper shipping name**· **ADR**

Void

· **ADN, IMDG, IATA**

Void

· **Transport hazard class(es)**· **ADR, ADN, IMDG, IATA**· **Class**

Void

· **Packing group**· **ADR, IMDG, IATA**

Void

· **Environmental hazards:**· **Marine pollutant:**

No

· **Special precautions for user**

Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**Not dangerous according to the above specifications.
Assessment BAM Nr. 2.2-372/11· **UN "Model Regulation":**

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Labelling according to Regulation (EC) No 1272/2008** Void· **Hazard pictograms** Void· **Signal word** Void· **Hazard statements** Void· **Precautionary statements**

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P261

Avoid breathing vapours.

P302+P352

IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333+P313

If skin irritation or rash occurs: Get medical advice/attention.

P403+P235

Store in a well-ventilated place. Keep cool.

· **National regulations**· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.· **Classification according to "Betriebssicherheitsverordnung (BetrSichV)":** -· **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.

· **Relevant phrases**

H226

Flammable liquid and vapour.

H241

Heating may cause a fire or explosion.

H301

Toxic if swallowed.

H304

May be fatal if swallowed and enters airways.

H311

Toxic in contact with skin.

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Safety data sheet

according to 1907/2006/EC, Article 31 / ISO 11014

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H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
R10	Flammable.
R20	Harmful by inhalation.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R3	Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R33	Danger of cumulative effects.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R43	May cause sensitisation by skin contact.
R48	Danger of serious damage to health by prolonged exposure.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.
R7	May cause fire.

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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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