1 Identification

- **Product identifier**
  - **Trade name:** Hilti HIT-RE 500-SD
  - **Container size:** 330 ml, 500 ml
- **Relevant identified uses of the substance or mixture and uses advised against**
  - **Sector of Use:** Building and construction work
  - **Application of the substance / the mixture:** Adhesive mortar for rebar and anchor fastenings in solid concrete
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** Hilti, Inc.
    5400 South 122nd East Ave.
    US-Tulsa, OK 74146
    Phone: (800) 879-8000
    Fax: (800) 879-7000
    Español: (800) 879-5000
  - **Information department:** anchor.hse@hilti.com
    see section 16
  - **Emergency telephone number:** Chem-Trec
    Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
    Tel.: 703 527 3887 (Other countries)

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - **Skin Corr. 1A** H314 Causes severe skin burns and eye damage.
  - **Eye Dam. 1** H318 Causes serious eye damage.
  - **Aquatic Chronic 2** H411 Toxic to aquatic life with long lasting effects.
  - **Skin Sens. 1** H317 May cause an allergic skin reaction.

- **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS05
    - GHS07
    - GHS09

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - m-Xylylenediamine
  - reaction product: bisphenol-A-(epichlorhydrin) epoxy resin
    (number average molecular weight = 700)
  - Reaction product: bisphenol-F epichlorhydrin resin, MW \( \leq 700 \)

- **Hazard statements**
  - H314 Causes severe skin burns and eye damage.
  - H317 May cause an allergic skin reaction.
  - H411 Toxic to aquatic life with long lasting effects.

- **Precautionary statements**
  - **P260** Do not breathe vapours.
  - **P280** Wear protective gloves/protective clothing/eye protection/face protection.
  - **P303+P361+P353** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - **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.
  - **P337+P313** If eye irritation persists: Get medical advice/attention.

(Contd. on page 2)
Trade name: Hilti HIT-RE 500-SD

Classification system
- NFPA ratings (scale 0-4)
  - Health = 3
  - Fire = 1
  - Reactivity = 0

Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

Additional information:
- Hilti HIT

Information pertaining to particular dangers for man and environment: A
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.

Information pertaining to particular dangers for man and environment: B
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H412 Harmful to aquatic life with long lasting effects.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description:
  - 2-component-foilpack, contains:
    - Component A: Epoxy resin, Reactive diluent, inorganic filler
    - Component B: Amine hardener, inorganic filler
  - Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

- Dangerous components A:
  - 25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700) 25-50%
  - 28064-14-4 Reaction product: bisphenol-F epichlorhydrin resin, MW ≤ 700 10-30%
  - 16096-31-4 1,6-bis(2,3-epoxypropoxy)hexane 10-25%
  - 30499-70-8 Trimethylolpropane, (chloromethyl)oxirane polymer 2.5-10%
  - 14808-60-7 Quartz (SiO2) 25-50%

- Dangerous components B:
  - 1477-55-0 m-Xylylenediamine 25-40%
  - 14808-60-7 Quartz (SiO2) 15-30%
  - 1344-28-1 aluminium oxide 5-10%

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: Immediately remove any clothing soiled by the product.
- After inhalation
  - Take affected persons into fresh air and keep quiet.
  - Seek medical treatment in case of complaints.
- After skin contact
  - Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)
Trade name: Hilti HIT-RE 500-SD

· After eye contact
  Call a doctor immediately.
  Rinse opened eye for several minutes under running water.
  Protect unharmed eye.
· After swallowing
  Do not induce vomiting; immediately call for medical help.
  Rinse out mouth and then drink plenty of water.
· Information for doctor
  · Most important symptoms and effects, both acute and delayed Allergic reactions
  · Indication of any immediate medical attention and special treatment needed
    No further relevant information available.

5 Fire-fighting measures

· Extinguishing media
  · Suitable extinguishing agents
    CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  · For safety reasons unsuitable extinguishing agents
    Water with full jet.
· Special hazards arising from the substance or mixture
  In case of fire, the following can be released:
  Nitrogen oxides (NOₓ)
  Carbon monoxide (CO)
  In certain fire conditions, traces of other toxic gases cannot be excluded.
· Advice for firefighters
  · Protective equipment: Wear self-contained respiratory protective device.
· Additional information
  Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
  Wear protective clothing.
  Ensure adequate ventilation
· Environmental precautions:
  Do not allow product to reach sewage system or any water course.
  Do not allow to penetrate the ground/soil.
· Methods and material for containment and cleaning up:
  Pick up mechanically.
  Clean the affected area carefully; suitable cleaners are:
    organic solvent
  Ensure adequate ventilation.
  Dispose contaminated material as waste according to item 13.
· 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 disposal information.

7 Handling and storage

· Handling
· Precautions for safe handling
  The usual precautionary measures for handling chemicals should be followed.
  Use only in well ventilated areas.
  Take note of emission threshold.
  Check the expiry date: see imprint on manifold (month/year). Do not use expired mortar!
· Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.
· Conditions for safe storage, including any incompatibilities
· Storage
  · Requirements to be met by storerooms and receptacles:
    Keep in a cool, dry and dark place; 41 °F / 5 °C to 77 °F / 25 °C.
  · Information about storage in one common storage facility: Store away from foodstuffs.
Further information about storage conditions: Protect from heat and direct sunlight.

Storage class: As per VCI (1991) storage classification concept.

Specific end use(s): Adhesive mortar for rebar and anchor fastenings in solid concrete

8 Exposure controls/personal protection

Control parameters

Components with limit values that require monitoring at the workplace:
The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.

1477-55-0 m-Xylylenediamine (25-50%)

<table>
<thead>
<tr>
<th>REL</th>
<th>Short-term value:</th>
<th>0.1 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TLV</th>
<th>Short-term value:</th>
<th>0.1 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.
Do not eat, drink, smoke or sniff while working.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Clean skin thoroughly immediately after handling the product.
Ensure that washing facilities are available at the workplace.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Store protective clothing separately.
Wash hands before breaks and at the end of work.
Use skin protection cream for skin protection.
Do not carry product impregnated cleaning cloths in trouser pockets.

Breathing equipment:

Not necessary if room is well-ventilated.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Recommended filter device for short term use: Filter AX

Protection of hands:

Protective gloves.

Only use chemical-protective gloves with CE-labeling of category III.
EN 374
Avoid direct contact with the chemical / the product / the preparation by organizational measures.
The glove material has to be impermeable and resistant to the product / the substance / the preparation.

Material of gloves

Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.4 mm
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 cannot be calculated in advance, and therefore to be checked prior to the application.

Penetration time of glove material

Value for the permeation: Level 6 (> 480 min)
The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Not suitable are gloves made of the following materials:
Natural rubber, NR
Leather gloves
Strong gloves

(Contd. on page 5)
9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form:
        - Pasty
      - Color:
        - Component A: grey
        - Component B: red
        - Mixture: red
    - Odor:
      - Amine-like
    - Odour threshold:
      - Not determined
  - pH-value:
    - Component A: 7
    - Component B: 11.5
    - Mixture: 11.5
    - Not applicable.

- Change in condition
  - Melting point/Melting range:
    - Not determined.
  - Boiling point/Boiling range:
    - > 200 °C (>392 °F)

- Flash point:
  - >100 °C (>212 °F) (DIN EN ISO 1523)

- Flammability (solid, gaseous):
  - Not determined

- Ignition temperature:
  - Not determined

- Decomposition temperature:
  - Not determined

- Auto igniting:
  - Product is not selfigniting.

- Danger of explosion:
  - Product does not present an explosion hazard.

- Explosion limits:
  - Lower:
    - Not determined
  - Upper:
    - Not determined

- Vapor pressure at 20 °C (68 °F):
  - 0.04 hPa

- Density:
  - Component A: 1.5 g/cm³ (DIN 51757)
  - Component B: 1.4 g/cm³ (DIN 51757)
  - Not determined

- Relative density:
  - Not determined

- Vapour density:
  - Not determined

- Evaporation rate:
  - Not determined

- Solubility in / Miscibility with
  - Water:
    - Insoluble

- Partition coefficient (n-octanol/water):
  - Not determined

- Viscosity:
  - Dynamic at 20 °C (68 °F):
    - 50 Pa.s (DIN 53019)
  - Kinematic at 20 °C (68 °F):
    - >20 s (ISO 2431)
Safety Data Sheet
acc. to ISO 11014

Trade name: Hilti HIT-RE 500-SD

10 Stability and reactivity

- Reactivity
- Chemical stability
  - Thermal decomposition / conditions to be avoided: No decomposition if used 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:
      1477-55-0 m-Xylylenediamine
      | Route       | Value     |
      |-------------|-----------|
      | Oral        | LD50 1040 mg/kg (rat) |
      | Dermal      | LD50 2000 mg/kg (rabbit) |
      | Inhalative  | LC50/4h 2.4 mg/l (rat) |
    - Primary irritant effect:
      - on the skin: Strong caustic effect on skin and mucous membranes.
      - on the eye: Strong caustic effect. Strong irritant with the danger of severe eye injury.
    - Sensitization: Sensitization possible through skin contact.
    - Additional toxicological information:
      The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
      Harmful
      Corrosive
      Irritant

- Carcinogenic categories
  - NTP (National Toxicology Program)
    14808-60-7 Quartz (SiO2) K

12 Ecological information

- Aquatic toxicity:
  - 250868-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin
    (number average molecular weight = 700)
    | Test         | Value     |
    |-------------|-----------|
    | EC50/48h Algae | 9.4 mg/l |
    | EC50/48h Daphnia | 1.7 mg/l |
    | EC50/96h Fish   | 1.2 mg/l |
  - 28064-14-4 Reaction product: bisphenol-F epichlorhydrin resin, MW ≤ 700
    | Test         | Value     |
    |-------------|-----------|
    | EC50/48h Algae | 9.4 mg/l |
    | EC50/48h Daphnia | 1.7 mg/l |
    | EC50/96h Fish   | 1.5 mg/l |
1477-55-0 m-Xylylenediamine

EC50/48h 12 mg/l (Algae)
15.2 mg/l (magna daphnia)
75 mg/l (fish)

EC50/96h 75 mg/l (fish)

16096-31-4 1,6-bis(2,3-epoxypropoxy)hexane

EC50/48h 23.1 mg/l (Algae)
39 mg/l (magna daphnia)

EC50/96h 17.1 mg/l (fish)

· Persistence and degradability No further relevant information available.
· Behavior in environmental systems:
· Bioaccumulative potential No further relevant information available.
· Mobility in soil No further relevant information available.
· Ecotoxicological effects:
· Remark: Toxic for fish
· Additional ecological information:
· According to the formulation contains the following heavy metals and compounds from the EU guideline NO. 2006/11/EC:
  None
· General notes:
  Avoid transfer into the environment.
  The product contains materials that are harmful to the environment.
  Also poisonous for fish and plankton in water bodies.
  Toxic for aquatic organisms
  Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.
· Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods
· Recommendation
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
  Hand over to hazardous waste disposers.
  Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations.

· European waste catalogue:
  08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances
  20 01 27* paint, inks, adhesives and resins containing dangerous substances

· Uncleaned packagings:
· Recommendation:
  Disposal must be made according to official regulations.
  Dispose of packaging according to regulations on the disposal of packagings.

* 14 Transport information

· UN-Number
  ADR, IMDG, IATA
  UN3259

· UN proper shipping name
  ADR, IMDG, IATA
  AMINES, SOLID, CORROSIVE, N.O.S. (m-Xylylenediamine)

· Transport hazard class(es)
  DOT Class 8 Corrosive substances

  ADR, IMDG, IATA Class 8 Corrosive substances
  Label 8

(Contd. on page 8)
**Trade name:** Hilti HIT-RE 500-SD

(Contd. of page 7)

- **Packing group**
  - ADR, IMDG, IATA: II
- **Environmental hazards:**
  - Not applicable.
- **Special precautions for user**
  - Warning: Corrosive substances
- **EMS Number:**
  - F-A,S-B
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
  - Not applicable.
- **Transport/Additional information:**
  - IMDG
  - Limited quantities (LQ): 1 kg
  - IATA: Packing Instruction No.: 859
- **Remarks:**
  - UN "Model Regulation": UN3259 AMINES, SOLID, CORROSIVE, N.O.S. (m-Xylylenediamine), 8, II
  - HS-Code: 3214 10 10: Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Section 355 (Extremely hazardous substances):**
    - None of the ingredients is listed.
  - **Section 313 (Specific toxic chemical listings):**
    - 1344-28-1 aluminium oxide
- **TSCA (Toxic Substances Control Act):**
  - All ingredients are listed.
- **Proposition 65:**
  - **Chemicals known to cause cancer:**
    - 14808-60-7 Quartz (SiO2)
  - **Cancerogenity categories**
  - **EPA (Environmental Protection Agency)**
    - None of the ingredients is listed.
  - **TLV (Threshold Limit Value established by ACGIH)**
    - 14808-60-7 Quartz (SiO2): 14808-60-7 Quartz (SiO2) A2
    - 1344-28-1 aluminium oxide: 1344-28-1 aluminium oxide A4
  - **MAK (German Maximum Workplace Concentration)**
    - 14808-60-7 Quartz (SiO2): 14808-60-7 Quartz (SiO2) 1
    - 1344-28-1 aluminium oxide: 1344-28-1 aluminium oxide 2
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - 14808-60-7 Quartz (SiO2)
  - **National regulations**
  - **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
  - **Chemical safety assessment:** not required.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
  - H318 Causes serious eye damage.
- **Department issuing SDS:**
  - Hilti Entwicklungsgesellschaft mbH
  - Hiltistrasse 6
  - D-86916 Kaufering

(Contd. on page 9)
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· **Contact:** Mechthild Krauter

· **Date of preparation / last revision:** 05/18/2015 / 7

· **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
  - Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
  - Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
  - Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

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