1. Identification

Product identifier
VITA ZETA HLC BOND LIQUID

Recommended use of the chemical and restrictions on use
Use of the substance/mixture
Use as laboratory reagent

Details of the supplier of the safety data sheet
Company name: VITA Zahnfabrik H.Rauter GmbH & Co.KG
Post-office box: 1338
79704 Bad Säckingen
Telephone: +49(0)7761-562-0
Fax: +49(0)7761-562-299
Email: info@vita-zahnfabrik.com
Internet: www.vita-zahnfabrik.com

Emergency phone number:
+49-(0)761-19240

2. Hazard(s) identification

Classification of the chemical
29 CFR Part 1910.1200
Flammable liquids: Flam. Liq. 4
Respiratory or skin sensitization: Skin Sens. 1
Specific target organ toxicity single exposure: STOT SE 3 (respiratory tract irritation)

Label elements
29 CFR Part 1910.1200
Signal word: Warning

Pictograms:

Hazard statements
Combustible liquid
May cause an allergic skin reaction
May cause respiratory irritation

Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.

Hazards not otherwise classified
No information available.

3. Composition/information on ingredients

Mixtures
4. First-aid measures

**Description of first aid measures**

- **After inhalation**
  Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

- **After contact with skin**
  After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary. After contact with skin, wash immediately with plenty of water and soap.

- **After contact with eyes**
  After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

- **After ingestion**
  Rinse mouth immediately and drink plenty of water.

**Most important symptoms and effects, both acute and delayed**
No information available.

**Indication of any immediate medical attention and special treatment needed**
Treat symptomatically.

5. Fire-fighting measures

**Extinguishing media**

- **Suitable extinguishing media**
  Co-ordinate fire-fighting measures to the fire surroundings.

- **Specific hazards arising from the chemical**
  Non-flammable. Vapors may form explosive mixtures with air.

- **Special protective equipment and precautions for fire-fighters**
  Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

**Additional information**

- Use water spray/stream to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

- Provide adequate ventilation. Do not breathe gas/fume/vapour/spray. Avoid contact with skin, eyes and clothes.

- Use personal protection equipment.

**Environmental precautions**

- Do not allow to enter into surface water or drains.

**Methods and material for containment and cleaning up**

- Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**Reference to other sections**

- Safe handling: see section 7
7. Handling and storage

Precautions for safe handling

Advice on safe handling
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fume/vapour/spray.

Advice on protection against fire and explosion
No special fire protection measures are necessary.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

Hints on joint storage
No special measures are necessary.

8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fume/vapour/spray.

Protective and hygiene measures
Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

Eye/face protection
Wear eye protection/face protection.

Hand protection
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Recommended glove articles KCL Camatril velour Breakthrough time (maximum wearing time) NBR (Nitrile rubber) 120 min

Skin protection
Use of protective clothing.

Respiratory protection
In case of inadequate ventilation wear respiratory protection. Provide adequate ventilation as well as local exhaustion at critical locations. Technical ventilation of workplace
9. Physical and chemical properties

**Information on basic physical and chemical properties**

- **Physical state**: Liquid
- **Color**: characteristic
- **Odor**: not determined
- **pH-Value**: not determined

**Changes in the physical state**

- **Melting point/freezing point**: not determined
- **Initial boiling point and boiling range**: 240 °C
- **Flash point**: 73 °C

**Flammability**

- **Solid**: not applicable
- **Gas**: not applicable

**Explosive properties**

- **The product is not**: Explosive
- **Lower explosion limits**: 1 vol. %
- **Upper explosion limits**: 10,4 vol. %
- **Ignition temperature**: 350 °C

**Auto-ignition temperature**

- **Solid**: not applicable
- **Gas**: not applicable

**Decomposition temperature**: not determined

**Oxidizing properties**

- **Not oxidising.**

- **Vapor pressure**: <=1100 hPa
  
  - (at 50 °C)
- **Density**: 1,03000 g/cm³
- **Water solubility**: No

**Solubility in other solvents**

- **not determined**

- **Partition coefficient**: not determined
- **Vapor density**: not determined
- **Evaporation rate**: not determined

**Other information**

- **Solid content**: 0,0 %

10. Stability and reactivity

**Reactivity**

- **No hazardous reaction when handled and stored according to provisions.**

**Chemical stability**

- **The product is stable under storage at normal ambient temperatures.**

**Possibility of hazardous reactions**

- **No known hazardous reactions.**
Conditions to avoid

none/none

Incompatible materials

No information available.

Hazardous decomposition products

No known hazardous decomposition products.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-97-9</td>
<td>ethyl acetoacetat</td>
<td>oral</td>
<td>ATE</td>
<td>2500 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>3980 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>97-90-5</td>
<td>ethylene dimethacrylate</td>
<td>dermal</td>
<td>LD50</td>
<td>3300 mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitizing effects

May cause an allergic skin reaction (ethylene dimethacrylate)

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation

Specific target organ toxicity (STOT) - repeated exposure

Based on available data, the classification criteria are not met.

Carcinogenicity (OSHA): No ingredient of this mixture is listed.
Carcinogenicity (IARC): No ingredient of this mixture is listed.
Carcinogenicity (NTP): No ingredient of this mixture is listed.

Aspiration hazard

Based on available data, the classification criteria are not met.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

12. Ecological information

Ecotoxicity

The product is not: Ecotoxic.

Persistence and degradability

The product has not been tested.

Bioaccumulative potential

The product has not been tested.
Mobility in soil
The product has not been tested.

Other adverse effects
No information available.

Further information
Avoid release to the environment.

13. Disposal considerations

Waste treatment methods

Disposal recommendations
Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Contaminated packaging
Wash with plenty of water. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

14. Transport information

Marine transport (IMDG)

UN number: No dangerous good in sense of this transport regulation.
UN proper shipping name: No dangerous good in sense of this transport regulation.
Transport hazard class(es): No dangerous good in sense of this transport regulation.
Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

UN number: No dangerous good in sense of this transport regulation.
UN proper shipping name: No dangerous good in sense of this transport regulation.
Transport hazard class(es): No dangerous good in sense of this transport regulation.
Packing group: No dangerous good in sense of this transport regulation.

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user
No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

U.S. Regulations

National regulatory information
SARA Section 311/312 Hazards:
- ethyl acetooacetate (141-97-9): Fire hazard, Immediate (acute) health hazard
- ethylene dimethacrylate (97-90-5): Immediate (acute) health hazard

State Regulations
Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information
**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
- **IATA**: International Air Transport Association
- **GHS**: Globally Harmonized System of Classification and Labelling of Chemicals
- **EINECS**: European Inventory of Existing Commercial Chemical Substances
- **ELINCS**: European List of Notified Chemical Substances
- **CAS**: Chemical Abstracts Service
- **LC50**: Lethal concentration, 50%
- **LD50**: Lethal dose, 50%
- **CLP**: Classification, labelling and Packaging
- **REACH**: Registration, Evaluation and Authorization of Chemicals
- **GHS**: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
- **UN**: United Nations
- **DNEL**: Derived No Effect Level
- **DMEL**: Derived Minimal Effect Level
- **PNEC**: Predicted No Effect Concentration
- **ATE**: Acute toxicity estimate
- **LL50**: Lethal loading, 50%
- **EL50**: Effect loading, 50%
- **EC50**: Effective Concentration 50%
- **ErC50**: Effective Concentration 50%, growth rate
- **NOEC**: No Observed Effect Concentration
- **BCF**: Bio-concentration factor
- **PBT**: persistent, bioaccumulative, toxic
- **vPvB**: very persistent, very bioaccumulative
- **RID**: Regulations concerning the international carriage of dangerous goods by rail
- **ADN**: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
- **EmS**: Emergency Schedules
- **MFAG**: Medical First Aid Guide
- **ICAO**: International Civil Aviation Organization
- **MARPOL**: International Convention for the Prevention of Marine Pollution from Ships
- **IBC**: Intermediate Bulk Container
- **SVHC**: Substance of Very High Concern

For abbreviations and acronyms, see table at [http://abbrev.esdscom.eu](http://abbrev.esdscom.eu)

**Other data**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*