1. Identification

Product identifier
VITAVM LC SEPARATOR

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 Telefax: +49(0)7761-562-299
E-mail: 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
Hazard categories:
Flammable liquids: Flam. Liq. 2
Aspiration hazard: Asp. Tox. 1
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Dam. 1
Reproductive toxicity: Repr. 2
Specific target organ toxicity single exposure: STOT SE 3
Specific target organ toxicity repeated or prolonged exposure: STOT RE 2

Hazard Statements:
Highly flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation
Causes serious eye damage
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure

Label elements
29 CFR Part 1910.1200
Signal word: Danger

Pictograms:

Hazard statements
Highly flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation
Causes serious eye damage
May cause drowsiness or dizziness
Suspected of damaging fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure

Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Call a poison center/doctor if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazards not otherwise classified
No information available.

3. Composition/information on ingredients

Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>110-82-7</td>
<td>cyclohexane</td>
<td>54.5 %</td>
</tr>
<tr>
<td>108-88-3</td>
<td>toluene</td>
<td>10 %</td>
</tr>
<tr>
<td>4253-34-3</td>
<td>methylsilanetriyl triacetat</td>
<td>3 %</td>
</tr>
<tr>
<td>1067-33-0</td>
<td>dibutyltin diacetate</td>
<td>0.5 %</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of first aid measures

After inhalation
Provide fresh air. Medical treatment necessary.

After contact with skin
After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

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
Carbon dioxide (CO2), Foam, Extinguishing powder.

Unsuitable extinguishing media
Water.

Specific hazards arising from the chemical
Highly flammable. Vapours can 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 jet 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
Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Environmental precautions
Do not allow uncontrolled discharge of product into the environment. Danger of explosion

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
Personal protection equipment: see section 8
Disposal: see section 13

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/fumes/vapour/spray.

Advice on protection against fire and explosion
Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

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 exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on storage compatibility
Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

8. Exposure controls/personal protection

Control parameters

Exposure limits

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>f/cc</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>110-82-7</td>
<td>Cyclohexane</td>
<td>300</td>
<td>1050</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300</td>
<td>1050</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td>TWA (8 h)</td>
<td>ACGIH-2016</td>
</tr>
<tr>
<td></td>
<td>Toluene</td>
<td>200</td>
<td>-</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td>108-88-3</td>
<td></td>
<td>100</td>
<td>375</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td>TWA (8 h)</td>
<td>ACGIH-2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150</td>
<td>560</td>
<td></td>
<td>STEL (15 min)</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>500</td>
<td>-</td>
<td></td>
<td>Peak</td>
<td>PEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 300</td>
<td>-</td>
<td></td>
<td>Ceiling</td>
<td>PEL</td>
</tr>
</tbody>
</table>
Biological Exposure Indices (BEI-ACGIH)

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>Determinant</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-88-3</td>
<td>TOLUENE</td>
<td>Toluene</td>
<td>0.02 mg/L</td>
<td>blood</td>
<td>Prior to last shift of workweek</td>
</tr>
</tbody>
</table>

Exposure controls

**Appropriate engineering controls**
If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/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 or drink.

**Eye/face protection**
Suitable eye protection: goggles.

**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 Dermatril P Breakthrough time (maximum wearing time) 60 min NBR (Nitrile rubber)

**Skin protection**
Wear suitable protective clothing.

**Respiratory protection**
In case of inadequate ventilation wear respiratory protection. Technical ventilation of workplace Provide adequate ventilation as well as local exhaustion at critical locations.

**9. Physical and chemical properties**

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td>translucent</td>
</tr>
<tr>
<td>Odor:</td>
<td>characteristic</td>
</tr>
</tbody>
</table>

**Test method**

**pH-Value:** not determined

**Changes in the physical state**

<table>
<thead>
<tr>
<th>Melting point/freezing point:</th>
<th>not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>77 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>&lt; 5 °C</td>
</tr>
</tbody>
</table>

**Flammability**

<table>
<thead>
<tr>
<th>Solid:</th>
<th>not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas:</td>
<td>not applicable</td>
</tr>
</tbody>
</table>
1,2 vol. %
8,3 vol. %
260 °C  DIN 51794

Auto-ignition temperature
Solid: not applicable
Gas: not applicable

Ignition temperature: not determined

Oxidizing properties
Not oxidizing.

Vapor pressure: <=1100 hPa
(at 50 °C)

Density: 0,86700 g/cm³

Water solubility: No

Solubility in other solvents
not determined

Partition coefficient: not determined

Vapor density: not determined

Evaporation rate: not determined

Solid content: 0,0 %

10. Stability and reactivity

Reactivity
Highly flammable.

Chemical stability
The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions
No known hazardous reactions.

Conditions to avoid
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

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.
### Components

<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>110-82-7</td>
<td>cyclohexane</td>
<td>dermal</td>
<td>LD50</td>
<td>mg/kg</td>
<td>12705</td>
<td></td>
</tr>
<tr>
<td>108-88-3</td>
<td>toluene</td>
<td>dermal</td>
<td>LD50</td>
<td>mg/kg</td>
<td>12124</td>
<td></td>
</tr>
<tr>
<td>4253-34-3</td>
<td>methylsilanetriyl triacetat</td>
<td>oral</td>
<td>ATE</td>
<td>mg/kg</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>1067-33-0</td>
<td>dibutyltin diacetate</td>
<td>oral</td>
<td>LD50</td>
<td>mg/kg</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>mg/kg</td>
<td>2320</td>
<td></td>
</tr>
</tbody>
</table>

### Irritation and corrosivity
- Causes skin irritation
- Causes serious eye damage

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

### Carcinogenic/mutagenic/toxic effects for reproduction
- Suspected of damaging fertility or the unborn child (toluene)
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Carcinogenicity: Based on available data, the classification criteria are not met.

### Specific target organ toxicity (STOT) - single exposure
- May cause drowsiness or dizziness (cyclohexane)

### Specific target organ toxicity (STOT) - repeated exposure
- May cause damage to organs through prolonged or repeated exposure (toluene)

#### Carcinogenicity (IARC):
- Toluene (CAS 108-88-3) is listed in group 3.

### Aspiration hazard
- May be fatal if swallowed and enters airways (cyclohexane; toluene)

### Additional information on tests
This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP]. Special hazards arising from the substance or mixture!

### 12. Ecological information

#### Ecotoxicity
- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 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
- Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.
13. Disposal considerations

Waste treatment methods

Advice on disposal
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging
This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

14. Transport information

Marine transport (IMDG)

UN number: UN 1993
UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (cyclohexane)
Transport hazard class(es): 3
Packing group: II
Hazard label: 3

Limited quantity: 1 L
Excepted quantity: E2
EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

UN number: UN 1993
UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (cyclohexane)
Transport hazard class(es): 3
Packing group: II
Hazard label: 3

Limited quantity Passenger: 1 L
Passenger LQ: Y341
Excepted quantity: E2
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

Danger releasing substance: cyclohexane

Special precautions for user
Warning: Combustible liquid.
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 304 CERCLA:
- Cyclohexane (110-82-7): Reportable quantity = 1,000 (454) lbs. (kg)
- Toluene (108-88-3): Reportable quantity = 1,000 (454) lbs. (kg)

SARA Section 311/312 Hazards:
- Cyclohexane (110-82-7): Fire hazard, Immediate (acute) health hazard
- Toluene (108-88-3): Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
- methylsilanetriyl triacetat (4253-34-3): Immediate (acute) health hazard
- dibutyltin diacetate (1067-33-0): Immediate (acute) health hazard

SARA Section 313 Toxic release inventory:
- Cyclohexane (110-82-7): De minimis limit = 1.0 %, Reportable threshold = Standard
- Toluene (108-88-3): De minimis limit = 1.0 %, Reportable threshold = Standard

Clean Air Act Section 112(b):
- Toluene (108-88-3)

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
WARNING: This product contains the following chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm: Toluene (developmental).

16. Other information

Revision date: 20.02.2017
Revision No: 1

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%

Other data
The information is based on present level of our knowledge. It does not, however, give assurances 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.)