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

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 (narcotic effects)
Specific target organ toxicity repeated or prolonged exposure: STOT RE 2

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:

- 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

Hazard statements

Precautionary statements

Do not handle until all safety precautions have been read and understood.
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.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
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 plenty of water and soap. 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.

After ingestion
Observe risk of aspiration if vomiting occurs.

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. 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
Remove all sources of ignition. 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 uncontrolled discharge of product into the environment. Explosion risk.

**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 (PPE): 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/fume/vapour/spray.
- **Advice on protection against fire and explosion**
  - Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapors may 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.

**Hints on joint storage**
Do not store together with: Oxidizing 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>108-88-3</td>
<td>Toluene</td>
<td>200</td>
<td>-</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
<tr>
<td></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>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>300</td>
<td>-</td>
<td></td>
<td>Ceiling</td>
<td>PEL</td>
</tr>
</tbody>
</table>

**Exposure controls**

**Appropriate engineering controls**
- If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe
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
- 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
- Flame-retardant protective clothing. Wear anti-static footwear and clothing 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

<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>
<tr>
<td>pH-Value:</td>
<td>not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changes in the physical state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point:</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
</tr>
<tr>
<td>Flash point:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flammability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid:</td>
</tr>
<tr>
<td>Gas:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Explosive properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>The product is not:</td>
</tr>
<tr>
<td>Lower explosion limits:</td>
</tr>
<tr>
<td>Upper explosion limits:</td>
</tr>
<tr>
<td>Ignition temperature:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auto-ignition temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid:</td>
</tr>
<tr>
<td>Gas:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oxidizing properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not oxidising.</td>
</tr>
<tr>
<td>Vapor pressure:</td>
</tr>
</tbody>
</table>
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

Other information
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. Vapors may 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.

<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 mg/kg</td>
<td>12705</td>
<td></td>
<td></td>
</tr>
<tr>
<td>108-88-3</td>
<td>toluene</td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>12200</td>
<td>Rabbit</td>
<td>GESTIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation (4 h) vapour</td>
<td>LC50 mg/l</td>
<td>49</td>
<td>Rat</td>
<td>GESTIS</td>
</tr>
<tr>
<td>4253-34-3</td>
<td>methylsilanetriyl triacetat</td>
<td>oral</td>
<td>ATE mg/kg</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1067-33-0</td>
<td>dibutyltin diacetate</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>32 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>2320</td>
<td></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

Additional information on tests
The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP]. Specific hazards arising from the chemical!

12. Ecological information

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-88-3</td>
<td>toluene</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>13 mg/l</td>
<td>96 h</td>
<td>Carassius auratus</td>
<td>IUCLID</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>12,5 mg/l</td>
<td>72 h</td>
<td>GESTIS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability
The product has not been tested.

Bioaccumulative potential
The product has not been tested.

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Components</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-88-3</td>
<td>toluene</td>
<td>2.73</td>
</tr>
</tbody>
</table>

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
Disposal recommendations
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**

Hazardous waste according to Directive 2008/98/EC (waste framework directive). 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

**Special Provisions:** 274
- 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

**Special Provisions:** A3
- 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

WARNING: This product can expose you to chemicals including Toluene (developmental), which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

16. Other information

Revision date: 02.08.2019
Revision No: 2

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%
ER50: 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
VOC: Volatile Organic Compounds
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at 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.)