Safety Data Sheet

according to Regulation (EC) No 1907/2006

VITA VM LC OPAQUE LIQUID

Revision date: 28.02.2017 Product code: 186-CLP Page 1 of 9

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

1.1. Product identifier

VITA VM LC OPAQUE LIQUID

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
- Flammable liquid: Flam. Liq. 2
- Skin corrosion/irritation: Skin Irrit. 2
- Respiratory or skin sensitisation: Skin Sens. 1
- Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:
- Highly flammable liquid and vapour.
- Causes skin irritation.
- May cause an allergic skin reaction.
- May cause respiratory irritation.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling
- ethylene dimethacrylate
- methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate
- 2-dimethylaminoethyl methacrylate
- Camphorquinone

Signal word: Danger

Pictograms:

Hazard statements
- H225 Highly flammable liquid and vapour.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H335 May cause respiratory irritation.

Precautionary statements
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>97-90-5</td>
<td>ethylene dimethacrylate</td>
<td>55 - 60%</td>
</tr>
<tr>
<td>202-617-2</td>
<td>methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate</td>
<td>20 - 25%</td>
</tr>
<tr>
<td>72869-86-4</td>
<td>7,7,9-Trimethyl-4,13-dioxo-3,14-dioxo-5,12-diaza-hexadecan-1,16-diol-dimethacrylat (mixture of isomers)</td>
<td>10 - 15%</td>
</tr>
<tr>
<td>2867-47-2</td>
<td>2-dimethylaminoethyl methacrylate</td>
<td>1 - 5%</td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. 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
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.

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2), Foam, Extinguishing powder.

Unsuitable extinguishing media
Water.
5.2. Special hazards arising from the substance or mixture
 Highly flammable. Vapours can form explosive mixtures with air.

5.3. Advice for firefighters
 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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
 Remove all sources of ignition. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

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

6.3. 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.

6.4. Reference to other sections
 Safe handling: see section 7
 Personal protection equipment: see section 8
 Disposal: see section 13

SECTION 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities
 Requirements for storage rooms and vessels
 Keep container tightly closed. 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
 Occupational exposure limits

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fib/cm³</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6</td>
<td>Methyl methacrylate</td>
<td>50</td>
<td>-</td>
<td>-</td>
<td>TWA (8 h)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td>STEL (15 min)</td>
<td></td>
</tr>
</tbody>
</table>

8.2. 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
Wear eye/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 Vitoject Breakthrough time (maximum wearing time) 30 min FKM (fluoro rubber)

Skin protection
Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection
Provide adequate ventilation as well as local exhaustion at critical locations. Technical ventilation of workplace

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>light yellow</td>
</tr>
<tr>
<td>Odour:</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value:</td>
<td>not determined</td>
</tr>
</tbody>
</table>

Changes in the physical state

<table>
<thead>
<tr>
<th>Melting point:</th>
<th>not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>101 °C</td>
</tr>
<tr>
<td>Flash point:</td>
<td>10 °C</td>
</tr>
</tbody>
</table>

Flammability

| Solid:          | not applicable |
| Gas:            | not applicable |
| Lower explosion limits: | 2.1 vol. % |
| Upper explosion limits: | 12.5 vol. % |

Auto-ignition temperature

| Solid:          | not applicable |
| Gas:            | not applicable |

Decomposition temperature: not determined

Oxidizing properties
Not oxidizing.
VAPOUR PRESSURE: <=1100 hPa
DENSITY: not determined
WATER SOLUBILITY: No
SOLUBILITY IN OTHER SOLVENTS: not determined
PARTITION COEFFICIENT: not determined
VAPOUR DENSITY: not determined
EVAPORATION RATE: not determined

9.2. Other information
Solid content: 0.0%

SECTION 10: Stability and reactivity

10.1. Reactivity
Highly flammable.

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

10.3. Possibility of hazardous reactions
No known hazardous reactions.

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

10.5. Incompatible materials
No information available.

10.6. Hazardous decomposition products
No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

ATEmix calculated
ATE (oral) 21739.1 mg/kg; ATE (dermal) 47826.1 mg/kg
Irritation and corrosivity
Causes skin irritation.
Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects
May cause an allergic skin reaction. (ethylene dimethacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate; 2-dimethylaminoethyl methacrylate)

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.

STOT-single exposure
May cause respiratory irritation. (ethylene dimethacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate)

STOT-repeated exposure
Based on available data, the classification criteria are not met.

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

Additional information on tests
This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity
The product is not: Ecotoxic.

12.2. Persistence and degradability
The product has not been tested.

12.3. Bioaccumulative potential
The product has not been tested.

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

12.5. Results of PBT and vPvB assessment
The product has not been tested.

12.6. 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.

SECTION 13: Disposal considerations
13.1. 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
Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1247
14.2. UN proper shipping name: UN1247 METHYLMETHACRYLAT, MONOMER, STABILISIERT
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3

Classification code: F1
Limited quantity: 1L
Transport category: 2
Hazard No: 339
Tunnel restriction code: D/E

Other applicable information (land transport)
E2

Inland waterways transport (ADN)

14.1. UN number: UN 1247
14.2. UN proper shipping name: UN1247 METHYLMETHACRYLAT, MONOMER, STABILISIERT
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3

Classification code: F1
Limited quantity: 1L

Other applicable information (inland waterways transport)
E2

Marine transport (IMDG)

14.1. UN number: UN 1247
14.2. UN proper shipping name: METHYL METHACRYLATE MONOMER, STABILIZED
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3

Marine pollutant: Nein
Safety Data Sheet

according to Regulation (EC) No 1907/2006

VITA VM LC OPAQUE LIQUID

Revision date: 28.02.2017 Product code: 186-CLP Page 8 of 9

EmS: F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1247
14.2. UN proper shipping name: Methyl methacrylate monomer, stabilized
14.3. Transport hazard class(es): II
14.5. Environmental hazards
  ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
  Warning: Combustible liquid.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
  not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

Employment restrictions: Observe restrictions to employment for juvenils according to the ‘juvenile work protection guideline’ (94/33/EC).
Water contaminating class (D): 3 - highly water contaminating
Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 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%

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.
Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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