## 1. Identification

**Product identifier**
VITA VM LC OPAQUE LIQUID

**Recommended use of the chemical and restrictions on use**

**Details of the supplier of the safety data sheet**

## 2. Hazard(s) identification

### Classification of the chemical

29 CFR Part 1910.1200

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

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

### Label elements

29 CFR Part 1910.1200

**Signal word:** Danger

**Pictograms:**

- ![Pictogram](image)

**Hazard statements**
- Highly flammable liquid and vapor
- Causes skin irritation
- May cause an allergic skin reaction
- May cause respiratory irritation

**Precautionary statements**
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Keep container tightly closed.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If skin irritation or rash occurs: Get medical advice/attention.
- Store in a well-ventilated place. Keep container tightly closed.

### 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>97-90-5</td>
<td>ethylene dimethacrylate</td>
<td>57.2 %</td>
</tr>
<tr>
<td>80-62-6</td>
<td>methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate</td>
<td>23.9 %</td>
</tr>
<tr>
<td>2867-47-2</td>
<td>2-dimethylamoethyl methacrylate</td>
<td>2.3 %</td>
</tr>
<tr>
<td>10373-78-1</td>
<td>Camphorquinone</td>
<td>2.3 %</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
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
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. 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 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>t/cc</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6</td>
<td>Methyl methacrylate</td>
<td>100</td>
<td>410</td>
<td></td>
<td>TWA (8 h)</td>
<td>PEL FEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>410</td>
<td></td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50</td>
<td>410</td>
<td></td>
<td>TWA (8 h)</td>
<td>ACGIH-2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td>STEL (15 min)</td>
<td>ACGIH-2016</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
- 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

### 9. Physical and chemical properties

#### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>light yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td><strong>Test method</strong></td>
<td>not determined</td>
</tr>
<tr>
<td>pH-Value</td>
<td>not determined</td>
</tr>
</tbody>
</table>

**Changes in the physical state**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point</td>
<td>not determined</td>
</tr>
<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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not applicable</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
<tr>
<td>Lower explosion limits</td>
<td>2,1 vol. %</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>12,5 vol. %</td>
</tr>
</tbody>
</table>

**Auto-ignition temperature**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>not applicable</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>not determined</td>
</tr>
</tbody>
</table>

**Oxidizing properties**

Not oxidizing.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor pressure</td>
<td>&lt;=1100 hPa</td>
</tr>
<tr>
<td>(at 50 °C)</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>not determined</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No</td>
</tr>
</tbody>
</table>

**Solubility in other solvents**

not determined

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapor density</td>
<td>not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
</tbody>
</table>

**Other information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid content</td>
<td>0,0 %</td>
</tr>
</tbody>
</table>
1. Reactivity
   Highly flammable.

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

3. Possibility of hazardous reactions
   No known hazardous reactions.

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.

5. Incompatible materials
   No information available.

6. 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.

    | CAS No | Components                          | Exposure route | Dose   | Species | Source | Method |
    |--------|-------------------------------------|----------------|--------|---------|--------|--------|
    | 97-90-5| ethylene dimethacrylate             | dermal         | LD50   | 3300 mg/kg |        |        |
    | 80-62-6| methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate | dermal         | LD50   | >5000 mg/kg |        |        |
    | 2867-47-2| 2-dimethylaminoethyl methacrylate | oral           | ATE    | 500 mg/kg   |        |        |
    |        |                                     | dermal         | ATE    | 1100 mg/kg  |        |        |

    Irritation and corrosivity
    Causes skin irritation
    Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

    Sensitizing 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.

    Specific target organ toxicity (STOT) - single exposure
    May cause respiratory irritation (ethylene dimethacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate)

    Specific target organ toxicity (STOT) - repeated exposure
    Based on available data, the classification criteria are not met.

    Carcinogenicity (IARC): Methyl methacrylate (CAS 80-62-6) is listed in group 3.

    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].

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
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
Handle contaminated packages in the same way as the substance itself.

14. Transport information

Marine transport (IMDG)

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

Marine pollutant: Nein
EmS: F-E,S-D

Air transport (ICAO-TI/IATA-DGR)

UN number: UN 1247
UN proper shipping name: Methyl methacrylate monomer, stabilized
Transport hazard class(es): 3
Packing group: II
Hazard label: 3
Safety Data Sheet

according to 29 CFR 1910.1200(g)

VITA VM LC OPAQUE LIQUID

Revision date: 28.02.2017

Product code: 186-US

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

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:
Methyl methacrylate (80-62-6): Reportable quantity = 1,000 (454) lbs. (kg)

SARA Section 311/312 Hazards:
ethylene dimethacrylate (97-90-5): Immediate (acute) health hazard
Methyl methacrylate (80-62-6): Fire hazard, Immediate (acute) health hazard
2-dimethylaminoethyl methacrylate (2867-47-2): Immediate (acute) health hazard
Camphorquinone (10373-78-1): Immediate (acute) health hazard

SARA Section 313 Toxic release inventory:
Methyl methacrylate (80-62-6): De minimis limit = 1.0 %, Reportable threshold = Standard

Clean Air Act Section 112(b):
Methyl methacrylate (80-62-6)

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Revision date: 28.02.2017
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 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.

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