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

## 1.1. Product identifier

**Trade name**

BÜFA®-Resin VE 7100 Tooling

**UFI**

UFI: G108-J0RC-Q00Q-3KF5

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

**Use of the substance/mixture**

Purpose of use: Raw substance formulas for manufacturing shaped parts from unsaturated polyester / vinyl ester resins.

**Uses advised against**

SU21 Consumer uses: Private households (= general public = consumers)

## 1.3. Details of the supplier of the safety data sheet

**Address**

BÜFA Composite Systems
GmbH & Co. KG Hohe Looge 2-8
Hohe Looge 2-8
26180 Rastede

| | |
|---|---|
| Telephone no. | +49 4402 975-0 |
| Fax no. | +49 4402 975-400 |
| Information provided by / telephone | Department product safety / +49 4402 975-415 |
| E-Mail | produktsicherheit-compositesystems@buefa.de |

## 1.4. Emergency telephone number

Giftzentrale Goettingen: +49 551 19240

# SECTION 2: Hazards identification

## 2.1. Classification of the substance or mixture

**Classification (Regulation (EC) No. 1272/2008)**

| | | |
|---|---|---|
| Flam. Liq. 3 | H226 | |
| Acute Tox. 4 | H332 | |
| Skin Irrit. 2 | H315 | |
| Eye Irrit. 2 | H319 | |
| Skin Sens. 1 | H317 | |
| Repr. 2 | H361d | |
| STOT SE 3 | H335 | |
| STOT RE 1 | H372 | Organs: Ear; Route of exposure: inhalative |
| Aquatic Chronic 3 | H412 | |

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008
For explanation of abbreviations see section 16.

## 2.2. Label elements

**Labelling according to regulation (EC) No 1272/2008**

**Hazard pictograms**

**Signal word**

Danger

**Hazard statements**

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H332 | Harmful if inhaled. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H317 | May cause an allergic skin reaction. |
| H361d | Suspected of damaging the unborn child. |
| H335 | May cause respiratory irritation. |
| H372 | Causes damage to organs through prolonged or repeated exposure. Ear; Route of exposure: inhalative |
| H412 | Harmful to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P210.9 | Keep away from sparks, open flames and other ignition sources. No smoking. |
| P260.8 | Do not breathe vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313 | IF exposed or concerned: Get medical advice/ attention. |

**Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)**

contains methyl methacrylate;styrene;Fatty acids, C14-18 and C16-18-unsaturated, maleated;cobalt bis(2-ethylhexanoate)

### 2.3. Other hazards

The product does not contain PBT/vPvB-substances.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

**Hazardous ingredients**

**styrene**

| | | |
|---|---|---|
| CAS No. | 100-42-5 | |
| EINECS no. | 202-851-5 | |
| Registration no. | 01-2119457861-32-XXXX | |
| Concentration | >= 30 < 50 % | |
| Flam. Liq. 3 | H226 | |
| Skin Irrit. 2 | H315 | |
| Acute Tox. 4 | H332 | |
| Eye Irrit. 2 | H319 | |
| STOT SE 3 | H335 | |
| STOT RE 1 | H372 | Organs: Ear; Route of exposure: inhalative |
| Asp. Tox. 1 | H304 | |
| Repr. 2 | H361d | |
| Aquatic Chronic 3 | H412 | |

**methyl methacrylate**

| | |
|---|---|
| CAS No. | 80-62-6 |
| EINECS no. | 201-297-1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Registration no. | 01-2119452498-28-XXXX | | | | | |
| Concentration | | >= | 1 | < | 10 | % |
| Flam. Liq. 2 | H225 | | | | | |
| STOT SE 3 | H335 | | | | | |
| Skin Irrit. 2 | H315 | | | | | |
| Skin Sens. 1 | H317 | | | | | |

**Fatty acids, C14-18 and C16-18-unsaturated, maleated**

| | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | 85711-46-2 | | | | | |
| EINECS no. | 288-306-2 | | | | | |
| Registration no. | 01-2119976378-19-0000 | | | | | |
| Concentration | | >= | 0,1 | < | 1 | % |
| Skin Sens. 1 | H317 | | | | | |
| Skin Irrit. 2 | H315 | | | | | |

**cobalt bis(2-ethylhexanoate)**

| | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | 136-52-7 | | | | | |
| EINECS no. | 205-250-6 | | | | | |
| Registration no. | 01-2119524678-29 | | | | | |
| Concentration | | >= | 0,1 | < | 0,3 | % |
| Repr. 1B | H360F | | | | | |
| Skin Sens. 1 | H317 | | | | | |
| Eye Irrit. 2 | H319 | | | | | |
| Aquatic Acute 1 | H400 | | | | | |
| Aquatic Chronic 3 | H412 | | | | | |

| | | | |
|---|---|---|---|
| Repr. 1B | H360F | > 0,30 % | |

**1,4-dihydroxybenzene**

| | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | 123-31-9 | | | | | |
| EINECS no. | 204-617-8 | | | | | |
| Registration no. | 01-2119524016-51-XXXX | | | | | |
| Concentration | | >= | 0,01 | < | 0,1 | % |
| Aquatic Acute 1 | H400 | | | | | |
| Skin Sens. 1 | H317 | | | | | |
| Eye Dam. 1 | H318 | | | | | |
| Carc. 2 | H351 | | | | | |
| Acute Tox. 4 | H302 | | | | | |
| Muta. 2 | H341 | | | | | |

| | | |
|---|---|---|
| Aquatic Acute 1 | M = 10 | |

**Further ingredients**

**silicon dioxide**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| CAS No. | 7631-86-9 | | | | | EINECS no. | | 231-545-4 |
| Registration no. | 01-2119379499-16-0000 | | | | | | | |
| Concentration | | >= | 1 | < | 10 | % | | [3] |

Complete text of hazard statements in chapter 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**General information**

Adhere to personal protective measures when giving first aid. Remove soiled or soaked clothing immediately, do not allow to dry.

**After inhalation**

Remove the casualty into fresh air and keep him calm. Irregular breathing/no breathing: artificial respiration. In the event of symptoms take medical treatment.

**After skin contact**

Wash off immediately with soap and water.

**After eye contact**

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Seek medical advice immediately. Remove contact lenses

**After ingestion**

Rinse mouth thoroughly with water. Summon a doctor immediately. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If individual is drowsy or unconscious place in recovery position (on left side, with head down).

### 4.2. Most important symptoms and effects, both acute and delayed

The following symptoms may occur: Headache, Dizziness, Nausea

### 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**

Alcohol-resistant foam, Dry powder, Carbon dioxide

**Non suitable extinguishing media**

Full water jet

### 5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible. In the event of fire the following can be released: Carbon monoxide (CO); Nitrogen oxides (NOx); dense black smoke

### 5.3. Advice for firefighters

Use self-contained breathing apparatus.
Collect contaminated fire-fighting water separately, must not be discharged into the drains.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Use personal protective clothing. Keep away sources of ignition. Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol.

### 6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil. Prevent spread over a wide area (e.g. by containment or oil barriers).

### 6.3. Methods and material for containment and cleaning up

Pick up with absorbent material (eg sand, kieselgur, acid binder, universal binder, sawdust). When picked up, treat material as prescribed under Section 13 "Disposal".

### 6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Observe the usual precautions for handling chemicals.

Keep away from sources of ignition - No smoking. Take action to prevent static discharges. Vapours can form an explosive mixture with air.

### 7.2. Conditions for safe storage, including any incompatibilities

Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep container tightly closed and dry in a cool, well-ventilated place. Protect from heat and direct sunlight.

### 7.3. Specific end use(s)

No information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Derived No/Minimal Effect Levels (DNEL/DMEL)

**methyl methacrylate**

| | | | | |
|---|---|---|---|---|
| Reference substance | methyl methacrylate | | | |
| DNEL | | | | |
| Conditions | Worker | Long term | inhalative | |
| Concentration | 210 | mg/m³ | | |
| DNEL | | | | |
| Conditions | Worker | Long term | dermal | |
| Concentration | 74,3 | mg/m³ | | |

**styrene**

| | | | | |
|---|---|---|---|---|
| DNEL | | | | |
| Conditions | Worker | Acute | inhalative | Systemic effects |
| Concentration | 289 | mg/m³ | | |
| DNEL | | | | |
| Conditions | Worker | Long term | inhalative | Systemic effects |
| Concentration | 85 | mg/m³ | | |
| DNEL | | | | |
| Conditions | Worker | Acute | inhalative | Local effects |
| Concentration | 306 | mg/m³ | | |
| DNEL | | | | |
| Conditions | Worker | Long term | dermal | Systemic effects |
| Concentration | 406 | mg/kg/d | | |

**cobalt bis(2-ethylhexanoate)**

| | | | | |
|---|---|---|---|---|
| DNEL | | | | |
| Conditions | Worker | Long term | inhalative | Local effects |
| Concentration | 235,1 | µg/m³ | | |

#### Predicted No Effect Concentration (PNEC)

**cobalt bis(2-ethylhexanoate)**

| | | |
|---|---|---|
| Type of value | PNEC | |
| Type | Sewage treatment plant (STP) | |
| Concentration | 1,08 | mg/l |
| Type | freshwater | |
| Concentration | 0,00149 | mg/l |

| | | |
|---|---|---|
| Type | marine water | |
| Concentration | 0,0069 | mg/l |
| Type | freshwater sediment | |
| Concentration | 27,8 | mg/kg |
| Type | marine sediment | |
| Concentration | 17,8 | mg/kg |
| Type | Soil | |
| Concentration | 23,1 | mg/kg |

### 8.2. Exposure controls

**Appropriate engineering controls**

Use only in well ventilated areas.
Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommendedor statutory limits.

**General protective and hygiene measures**

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with skin and eyes. Do not inhale gases/vapours/aerosols. Personal protective equipment must comply with the Regulation (EC) No 2016/425 and the resulting CEN standards.

**Respiratory protection**

If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Short term: filter apparatus, Filter A; Self-contained breathing apparatus. Respiratory protection must comply with DIN EN 136 / DIN EN 140 / DIN EN 143 / DIN EN 149.

**Hand protection**

Chemical resistant gloves

| | | | |
|---|---|---|---|
| Appropriate Material | Butyl rubber | | |
| Material thickness | | 0,7 | mm |
| Breakthrough time | = | 30 | min |

Hand protection must comply with EN 374.

**Eye protection**

Tightly fitting safety glasses; Eye protection must comply with EN 166.

**Body protection**

Clothing as usual in the chemical industry. Wear protective clothing according to EN 13034: 2005 + A1: 2009.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| **Form** | liquid |
| **Colour** | beige |
| **Odour** | of styrene |
| **Odour threshold** | |
| Remarks | No data available |
| **pH value** | |
| Remarks | No data available |
| **Melting point** | |
| Remarks | No data available |
| **Freezing point** | |
| Remarks | No data available |

**Boiling point**
Remarks No data available

**Flash point**
Value 33,5 °C
Method ISO 3679-B

**Evaporation rate**
Remarks No data available

**Efflux time**
Value 42 s
Method DIN EN ISO 2431 - 6 mm

**Flammability**
No data available

**Explosion limits**
Remarks No data available

**Vapour pressure**
Remarks No data available

**Vapour density**
Remarks No data available

**Density**
Value 1,332 g/cm³
Temperature 20 °C

**Solubility in water**
Remarks No data available

**Solubility in other solvents**
Remarks No data available

**Octanol/water partition coefficient (log Pow)**
Remarks No data available

**Ignition temperature**
Value 490 °C
Remarks Information refers to the main component.
Styrol

**Auto-ignition temperature**
Remarks No data available

**Thermal decomposition**
Remarks No data available

**Explosive properties**
evaluation no data

**Oxidising properties**
Remarks No data available

### 9.2. Other information
No information available.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity
No hazardous reactions when stored and handled according to prescribed instructions.

### 10.2. Chemical stability
The product is stable.

### 10.3. Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

### 10.4. Conditions to avoid
Protect from heat and direct sunlight.

### 10.5. Incompatible materials
Reactions with peroxides and other radical components.

### 10.6. Hazardous decomposition products
No hazardous decomposition products known.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Acute oral toxicity**

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

**Acute oral toxicity (Components)**

**methyl methacrylate**

| | | | |
|---|---|---|---|
| Species | rat | | |
| LD50 | > | 5000 | mg/kg |
| Method | OECD 401 | | |

**styrene**

| | | | |
|---|---|---|---|
| Species | rat | | |
| LD50 | > | 5000 | mg/kg |

**Acute dermal toxicity**

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

**Acute dermal toxicity (Components)**

**methyl methacrylate**

| | | | |
|---|---|---|---|
| Species | rabbit | | |
| LD50 | > | 5000 | mg/kg |

**styrene**

| | | | |
|---|---|---|---|
| Species | rat | | |
| LD50 | > | 5000 | mg/kg |

**Acute inhalational toxicity**

| | | | |
|---|---|---|---|
| ATE | | 36,44 | mg/l |
| Administration/Form | Vapors | | |
| Method | calculated value (Regulation (EC) No. 1272/2008) | | |
| ATE | | 4,63 | mg/l |
| Administration/Form | Dust/Mist | | |
| Method | calculated value (Regulation (EC) No. 1272/2008) | | |

The classification criteria are met.

**Acute inhalative toxicity (Components)**

**methyl methacrylate**

| | | | |
|---|---|---|---|
| Species | rat | | |
| LC50 | | 29,8 | mg/l |

**styrene**

| | | | |
|---|---|---|---|
| Species | rat | | |
| LC50 | | 11,8 | mg/l |
| Duration of exposure | | 4 h | |
| Administration/Form | Vapors | | |

**Skin corrosion/irritation**

| | |
|---|---|
| evaluation | irritant |

The classification criteria are met.

**Serious eye damage/irritation**

evaluation irritant
The classification criteria are met.

**Sensitization**

evaluation May cause sensitization by skin contact.
The classification criteria are met.

**Sensitization (Components)**

**styrene**
evaluation non-sensitizing

**Mutagenicity**

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

**Carcinogenicity**

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

**Reproductive toxicity**

evaluation Suspected of damaging the unborn child.
The classification criteria are met.

**Specific Target Organ Toxicity (STOT)**

**Single exposure**

The classification criteria are met.
evaluation May cause respiratory irritation.

**Repeated exposure**

The classification criteria are met.
evaluation Causes damage to organs through prolonged or repeated exposure

**Aspiration hazard**

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

**Other information**

Inhalation of the vapours causes irritation of the respiratory tract and mucous membrane, headaches, nausea, giddiners, vomiting.

## SECTION 12: Ecological information

### 12.1. Toxicity

**Fish toxicity**

**methyl methacrylate**

| | | | | | |
|---|---|---|---|---|---|
| Species | rainbow trout (Oncorhynchus mykiss) | | | | |
| LC50 | > | 79 | | | mg/l |
| Duration of exposure | | 96 | h | | |
| Method | OECD 203 | | | | |
| Species | zebra fish (Brachydanio rerio) | | | | |
| NOEC | | 9,4 | | | mg/l |
| Method | OECD 210 | | | | |

**styrene**

| | | | | | |
|---|---|---|---|---|---|
| LC/EC/IC50 | > | 1,0 | to | 10 | mg/l |

**Daphnia toxicity**

**methyl methacrylate**

| | | | |
|---|---|---|---|
| Species | Daphnia magna | | |
| EC50 | 69 | | mg/l |
| Duration of exposure | 48 | h | |
| Method | OECD 202 | | |
| Species | Daphnia magna | | |

| | | | | | |
|---|---|---|---|---|---|
| NOEC | | 37 | | | mg/l |
| Duration of exposure | | 21 | Days | | |
| Method | OECD 202 Part 2 | | | | |
| Durchfluss | | | | | |

**styrene**

| | | | | | |
|---|---|---|---|---|---|
| Species | Daphnia magna | | | | |
| LC/EC/IC50 | > | 1,0 | to | 10 | mg/l |

**Algae toxicity**

**methyl methacrylate**

| | | | | | |
|---|---|---|---|---|---|
| Species | Selenastrum capricornutum | | | | |
| EC50 | > | 110 | | | mg/l |
| Duration of exposure | | 72 | h | | |
| Method | OECD 201 | | | | |

**styrene**

| | | | | | |
|---|---|---|---|---|---|
| LC/EC/IC50 | > | 1,0 | to | 10 | mg/l |

**Bacteria toxicity**

**methyl methacrylate**

| | | | |
|---|---|---|---|
| Species | Pseudomonas putida | | |
| EC3 | 100 | | mg/l |
| Duration of exposure | 16 | h | |

### 12.2. Persistence and degradability

For this subsection there is no ecotoxicological data available on the product as such.

**Biodegradability**

**methyl methacrylate**

| | | | |
|---|---|---|---|
| Value | 94 | | % |
| Duration of test | 14 | Days | |
| evaluation | readily degradable | | |
| Method | OECD 301 C | | |

**styrene**

| | |
|---|---|
| evaluation | Readily biodegradable (according to OECD criteria) |

### 12.3. Bioaccumulative potential

For this subsection there is no ecotoxicological data available on the product as such.

**Octanol/water partition coefficient (log Pow)**

| | |
|---|---|
| Remarks | No data available |

### 12.4. Mobility in soil

For this subsection there is no ecotoxicological data available on the product as such.

### 12.5. Results of PBT and vPvB assessment

The product does not contain PBT/vPvB-substances.

### 12.6. Other adverse effects

For this subsection there is no ecotoxicological data available on the product as such.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal recommendations for the product**

| | | |
|---|---|---|
| EWC waste code | 07 02 08* | other still bottoms and reaction residues |

The listed waste code numbers, according to the European Waste Catalogue (EWC), are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company.

**Disposal recommendations for packaging**

Packaging that cannot be cleaned should be disposed off as product waste.

## SECTION 14: Transport information

| | Land transport ADR/RID | Marine transport IMDG/GGVSee |
|---|---|---|
| Tunnel restriction code | D/E | |
| **14.1. UN number** | 1866 | 1866 |
| **14.2. UN proper shipping name** | RESIN SOLUTION | RESIN SOLUTION |
| **14.3. Transport hazard class(es)** | 3 | 3 |
| Label |  |  |
| **14.4. Packing group** | III | III |
| Limited Quantity | 5 l | |
| Transport category | 3 | |

### Information for all modes of transport

**14.6. Special precautions for user**

Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**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

**Other information**

The product does not contain substances of very high concern (SVHC).

### 15.2. Chemical safety assessment

No information available

## SECTION 16: Other information

**Hazard statements listed in Chapter 3**

| | |
|---|---|
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |

| | |
|---|---|
| H335 | May cause respiratory irritation. |
| H341 | Suspected of causing genetic defects. |
| H351 | Suspected of causing cancer. |
| H360F | May damage fertility. |
| H361d | Suspected of damaging the unborn child. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H412 | Harmful to aquatic life with long lasting effects. |

**Abbreviations**

CAS: Chemical Abstracts Service
EAK: Europäischer Abfallkatalog
EINECS: European Inventory of Existing Commercial Chemical Substances
PBT: Persistent, Bioaccumulative and Toxic
vPvB: Very persistent and very bioaccumulative
VOC: Volatile Organic Compound

**CLP categories listed in Chapter 3**

| | |
|---|---|
| Acute Tox. 4 | Acute toxicity, Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment, acute, Category 1 |
| Aquatic Chronic 3 | Hazardous to the aquatic environment, chronic, Category 3 |
| Asp. Tox. 1 | Aspiration hazard, Category 1 |
| Carc. 2 | Carcinogenicity, Category 2 |
| Eye Dam. 1 | Serious eye damage, Category 1 |
| Eye Irrit. 2 | Eye irritation, Category 2 |
| Flam. Liq. 2 | Flammable liquid, Category 2 |
| Flam. Liq. 3 | Flammable liquid, Category 3 |
| Muta. 2 | Germ cell mutagenicity, Category 2 |
| Repr. 1B | Reproductive toxicity, Category 1B |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Skin Irrit. 2 | Skin irritation, Category 2 |
| Skin Sens. 1 | Skin sensitization, Category 1 |
| STOT RE 1 | Specific target organ toxicity - repeated exposure, Category 1 |
| STOT SE 3 | Specific target organ toxicity - single exposure, Category 3 |

**Supplemental information**

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.