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

1.1. Product identifier
Formalin system 450 ml / Formalin system 450 ml, red / Formalin set

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

Use of the substance/mixture
For fixation of tissue specimens.

1.3. Details of the supplier of the safety data sheet

Manufacturer
Company name: SARSTEDT AG & Co. KG
Street: Sarstedtstraße 1
Place: D-51588 Nümbrecht
Post-office box: 1220
D-51582 Nümbrecht
Telephone: +49 (0)2293 / 305 - 0
Fax: +49 (0)2293 / 305 - 2470
E-mail: info@sarstedt.com
Contact person: Dr. Dagmar Flach, Jochen Hoffmann

Supplier
Company name: SARSTEDT Ltd.
Street: 68 Boston Road
Place: GB-LE4 1AW Leicester
Telephone: +44 (0) 116 235 9023
Fax: +44 (0) 116 236 6099
E-mail: info@sarstedt.co.uk

1.4. Emergency telephone number:
Call NHS 111 or a doctor.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008
Hazard categories:
Acute toxicity: Acute Tox. 4
Respiratory or skin sensitisation: Skin Sens. 1
Germ cell mutagenicity: Muta. 2
Carcinogenicity: Carc. 1B

Hazard Statements:
Harmful if swallowed.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.

2.2. Label elements

Regulation (EC) No. 1272/2008
Hazard components for labelling
Formaldehyde
methanol
Signal word: Danger

Pictograms:

Hazard statements

- H302 Harmful if swallowed.
- H317 May cause an allergic skin reaction.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.

Precautionary statements

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing mist/vapour/spray.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/eye protection.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- P330 Rinse mouth.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P321 Specific treatment (see remarks on this label).
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- P501 Dispose of contents/container to waste disposal site according to legal regulations.

Special labelling of certain mixtures

Contains formaldehyde.

2.3. Other hazards

There are no data available on the mixture itself.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>EC No</th>
<th>Index No</th>
<th>REACH No</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0</td>
<td>Formaldehyde</td>
<td>200-001-8</td>
<td>605-001-00-5</td>
<td></td>
<td>1 - &lt; 5 %</td>
</tr>
<tr>
<td>67-56-1</td>
<td>methanol</td>
<td>200-659-6</td>
<td>603-001-00-X</td>
<td></td>
<td>1 - &lt; 5 %</td>
</tr>
</tbody>
</table>

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carc. 1B, Muta. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Corr. 1B, Skin Sens. 1; H350 H341 H301 H311 H331 H314 H317

Full text of H and EUH statements: see section 16.
4.1. Description of first aid measures

After inhalation
Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

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 eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

After ingestion
Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Medical treatment necessary.

4.2. Most important symptoms and effects, both acute and delayed
There are no data available on the mixture itself.

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
Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture
Non-flammable.

5.3. Advice for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information
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
Provide adequate ventilation. 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 to enter into surface water or drains.

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.
Safety Data Sheet
Formalin system 450 ml / Formalin system 450 ml, red / Formalin set
Revision date: 07.12.2018 Art. no. 51.1703.xxx Page 4 of 9

Advice on protection against fire and explosion
No special fire protection measures are necessary.

7.2. 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.

Advice on storage compatibility
No special measures are necessary.

7.3. Specific end use(s)
For fixation of tissue specimens.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0</td>
<td>Formaldehyde</td>
<td>2</td>
<td>2.5</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>2.5</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>200</td>
<td>266</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250</td>
<td>333</td>
<td></td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

Additional advice on limit values
Formaldehyde
CAS-No.: 50-00-0
WEL / TLV (Germany): 0,37 mg/cubic metre
(TRGS 900 - Technical guideline for the handling of hazardous materials)
Short-term occupational exposure limit value (Germany): 0,74 mg/cubic metre
(TRGS 900 - Technical guideline for the handling of hazardous materials)

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. Avoid contact with skin. Avoid contact with eyes.

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. Wash hands before breaks and after work.

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. Wear suitable gloves. 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.

**Skin protection**
- Wear suitable protective clothing.

**Respiratory protection**
- In case of inadequate ventilation wear respiratory protection. Required in case of formation of vapours/aerosols.

### SECTION 9: Physical and chemical properties

#### 9.1. 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>Colour</td>
<td>colourless / red</td>
</tr>
<tr>
<td>Odour</td>
<td>stinging, characteristic</td>
</tr>
<tr>
<td>pH-Value</td>
<td>7.1</td>
</tr>
</tbody>
</table>

**Changes in the physical state**
- Melting point: not determined
- Initial boiling point and boiling range: not determined
- Flash point: not determined

**Flammability**
- Solid: not applicable
- Gas: not applicable

**Explosive properties**
- No data available.
- Lower explosion limits: not determined
- Upper explosion limits: not determined

**Auto-ignition temperature**
- Solid: not applicable
- Gas: not applicable
- Decomposition temperature: not determined

**Oxidizing properties**
- Not oxidizing.
- Vapour pressure: not determined
- Density (at 20 °C): 1,020 - 1,022 g/cm³
- Water solubility: completely miscible

**Solubility in other solvents**
- not determined
- Partition coefficient: not determined
- Vapour density: not determined
- Evaporation rate: not determined

#### 9.2. Other information
- Solid content: not determined
- There are no data available on the mixture itself.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
- There are no data available on the mixture itself.
10.2. Chemical stability
There are no data available on the mixture itself.

10.3. Possibility of hazardous reactions
Danger of polymerization.

10.4. Conditions to avoid
Heat.

10.5. Incompatible materials
Strong oxidizing agents, acids, nitrogen oxides, hydrogenium peroxide, performic acid, strong bases.

10.6. Hazardous decomposition products
There are no data available on the mixture itself.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity
Harmful if swallowed.

ATEmix calculated
ATE (oral) 1875,1 mg/kg

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-00-0</td>
<td>Formaldehyde</td>
<td>oral</td>
<td>ATE mg/kg</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>ATE mg/kg</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative vapour</td>
<td>ATE 3 mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative aerosol</td>
<td>ATE 0,5 mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67-56-1</td>
<td>methanol</td>
<td>oral</td>
<td>ATE mg/kg</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>ATE mg/kg</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative vapour</td>
<td>ATE 3 mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative aerosol</td>
<td>ATE 0,5 mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Sensitising effects
May cause an allergic skin reaction. (Formaldehyde)

Carcinogenic/mutagenic/toxic effects for reproduction
Suspected of causing genetic defects. (Formaldehyde)
May cause cancer. (Formaldehyde)
Reproductive toxicity: Based on available data, the classification criteria are not met.

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

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]. Special hazards arising from the substance or mixture!

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</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>67-56-1</td>
<td>methanol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>15400</td>
<td>96 h</td>
<td>Lepomis macrochirus (Bluegill)</td>
<td>(ECOTOX Database)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>&gt;10000</td>
<td>48 h</td>
<td>Daphnia magna (Big water flea)</td>
<td>(IUCLID)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>methanol</td>
<td>-0.77</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

There are no data available on the mixture itself.

12.6. Other adverse effects

There are no data available on the mixture itself.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Do not allow to enter into surface water or drains. 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.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number: No dangerous good in sense of this transport regulation.
Formalin system 450 ml / Formalin system 450 ml, red / Formalin set

Revision date: 07.12.2018  Art. no. 51.1703.xxx  Page 8 of 9

### 14.2. UN proper shipping name
No dangerous good in sense of this transport regulation.

### 14.3. Transport hazard class(es)
No dangerous good in sense of this transport regulation.

### 14.4. Packing group
No dangerous good in sense of this transport regulation.

#### Marine transport (IMDG)

| 14.1. UN number: | No dangerous good in sense of this transport regulation. |
| 14.2. UN proper shipping name: | No dangerous good in sense of this transport regulation. |
| 14.3. Transport hazard class(es): | No dangerous good in sense of this transport regulation. |
| 14.4. Packing group: | No dangerous good in sense of this transport regulation. |

#### Air transport (ICAO-TI/IATA-DGR)

| 14.1. UN number: | No dangerous good in sense of this transport regulation. |
| 14.2. UN proper shipping name: | No dangerous good in sense of this transport regulation. |
| 14.3. Transport hazard class(es): | No dangerous good in sense of this transport regulation. |
| 14.4. Packing group: | No dangerous good in sense of this transport regulation. |

### 14.5. Environmental hazards

| ENVIRONMENTALLY HAZARDOUS: | no |

### 14.6. Special precautions for user

There are no data available on the mixture itself.

### 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

#### EU regulatory information

| 2010/75/EU (VOC): | 1,333 % (13,623 g/l) |
| 2004/42/EC (VOC): | 5,333 % (54,503 g/l) |

#### Additional information


#### National regulatory information

| Employment restrictions: | Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. |
| Water contaminating class (D): | 1 - slightly 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

### Changes

This data sheet contains changes from the previous version in section(s): 2,3,8,9,11,14,16.

Indication of the complete legal form of the company.

### 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%

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4; H302</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Skin Sens. 1; H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Muta. 2; H341</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Carc. 1B; H350</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Relevant H and EUH statements (number and full text)

- H225 Highly flammable liquid and vapour.
- H301 Toxic if swallowed.
- H302 Harmful if swallowed.
- H311 Toxic in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H331 Toxic if inhaled.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H370 Causes damage to organs.

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.

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