1. **IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING**

   **Product name:** TRIOFIX-2 LIQUID II
   **Application:** For embedding of specimens
   **Container size:** 0.5 l
   **Supplier:** Struers A/S
   Valhejs Allé 176
   DK-2610 Rødovre
   Tel: 45 3670 3500

2. **COMPOSITION/INFORMATION ON INGREDIENTS**

   The product contains: organic solvents, plasticizer, resin.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>%</th>
<th>Hazard classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl methacrylate</td>
<td>80-62-6</td>
<td>20-60</td>
<td>F;R11 Xi;R36/37/38 R43</td>
<td>-</td>
</tr>
<tr>
<td>Styrene</td>
<td>100-42-5</td>
<td>1-10</td>
<td>R10 Xn;R20 Xi;R36/38</td>
<td>-</td>
</tr>
<tr>
<td>N,N-Diethyl-p-toluidine</td>
<td>613-48-9</td>
<td>&lt;1</td>
<td>T;R23/24/25 R33 R52/53</td>
<td>-</td>
</tr>
<tr>
<td>1,1'-(p-Tolylimino)-dipropan-2-ol</td>
<td>38668-48-3</td>
<td>0.5-2.5</td>
<td>T;R25</td>
<td>-</td>
</tr>
<tr>
<td>Epoxy Resin</td>
<td>-</td>
<td>20-50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Plasticizer</td>
<td>-</td>
<td>20-50</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

3. **HAZARDS IDENTIFICATION**

   The product is highly flammable.

   **Man:** Irritating to eyes, respiratory system and skin. May cause allergic skin disorders in sensitive individuals. Frequent inhalation of even small concentrations may cause irritability, fatigue, memory failure and in time permanent damage to the nervous system, including the brain, and possibly liver and kidneys, too. Styrene is suspected to be carcinogenic.

   **Environment:** The product contains a substance which is harmful to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

4. **FIRST-AID MEASURES**

   **Inhalation:** Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring along these instructions.

   **Skin contact:** Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and bring along these instructions.

   **Eye contact:** Immediately flush with plenty of water for at least 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring along these instructions.

   **Ingestion:** Immediately rinse mouth and drink plenty of water. Keep person under observation. If uncomfortable: Seek hospital and bring along these instructions. Do not induce vomiting.
5. **FIRE-FIGHTING MEASURES**

**Extinguishing media:** Extinguish with foam, carbon dioxide, dry powder or water fog. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

**Specific hazards:** The product is highly flammable, and explosive vapours/air mixtures may be formed even at normal room temperatures. By heating and fire, toxic vapours may be formed.

**Protective equipment for fire-fighters:** Use air-supplied respirator during fire fighting.

6. **ACCIDENTAL RELEASE MEASURES**

**Personal precautions:** Do not smoke or use open fire or other sources of ignition. Avoid inhalation of vapours and contact with skin and eyes. In case of inadequate ventilation: Use respiratory equipment with gas filter, type A2. For personal protection, see point 8.

**Environmental precautions:** Avoid discharge into drains, water courses or onto the ground.

**Methods for cleaning up:** For waste disposal, see point 13. Remove sources of ignition. Dam and absorb spillages with sand, earth or other non-combustible material.

7. **HANDLING AND STORAGE**

**Safe handling advice:** Avoid inhalation of vapours and contact with skin and eyes. Avoid eating, drinking and smoking when using the product. Observe good industrial hygiene practices.

**Technical measures:** Work practice should minimise contact.

**Technical precautions:** Local exhaust is recommended.

**Technical measures for safe storage:** Follow rules for flammable liquids.

**Storage conditions:** Store in tightly closed original container in a well-ventilated place.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapours. Provide easy access to water supply and eye wash facilities.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Exposure limits</th>
<th>Type</th>
<th>Notes</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styrene</td>
<td>20ppm</td>
<td>TWA</td>
<td>A4</td>
<td>ACGIH (1999)</td>
</tr>
<tr>
<td></td>
<td>40ppm</td>
<td>STEL</td>
<td>-</td>
<td>ACGIH (1999)</td>
</tr>
<tr>
<td></td>
<td>0,55 mg/L</td>
<td>blood</td>
<td>End of shift</td>
<td></td>
</tr>
<tr>
<td>Styrene</td>
<td>100ppm</td>
<td>TWA</td>
<td>-</td>
<td>OSHA 1998</td>
</tr>
<tr>
<td></td>
<td>200ppm</td>
<td>STEL/C</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Methyl methacrylate</td>
<td>100ppm</td>
<td>TWA</td>
<td>A4</td>
<td>ACGIH (1999)</td>
</tr>
<tr>
<td>Methyl methacrylate</td>
<td>100ppm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>410mg/m³</td>
<td>TWA</td>
<td>-</td>
<td>OSHA 1998</td>
</tr>
</tbody>
</table>

Respiratory equipment: In case of inadequate ventilation: Use respiratory equipment with gas filter, type A2.

Hand protection: Wear protective gloves. Laminate (PE/EVOH) gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Consult the glove supplier to find the most suitable gloves.

Eye protection: Wear goggles/face shield.

Skin protection: Risk of contact: Wear apron or protective clothing in case of splashes.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: green liquid
Odour: characteristic
pH: not available
Boiling point: not available
Flash point: 10°C
Explosive properties: 1.1-12.5 vol % in air
Relative density: 1
Solubility: Miscible with water.

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature conditions.

Conditions/ materials to avoid: Avoid exposure to high temperatures or direct sunlight. Avoid contact with oxidizing agents.

Hazardous decomposition products: By heating, toxic vapours are formed.
11. TOXICOLOGICAL INFORMATION

**Inhalation:** Vapours have a narcotic effect and may cause headache, fatigue, dizziness and nausea. In serious cases, unconsciousness and permanent damage to the nervous system, including the brain, and kidneys may be seen.

**Skin contact:** Irritating. Risk of sensitization or allergic reactions among sensitive individuals. Contains organic solvents which may penetrate the skin.

**Eye contact:** Irritating and may cause redness and pain.

**Ingestion:** Irritating. May be absorbed in the body and cause dizziness, nausea and vomiting.

**Specific effects:** Frequent inhalation of even small concentrations may cause irritability, fatigue, memory failure and in time permanent damage to the nervous system, including the brain, and possibly liver and kidneys, too.

**Carcinogenicity:**
National Toxicology Program (NTP): No.
I.A.R.C. Monographs: Yes, Styrene is suspected to be carcinogenic.
OSHA: No.

12. ECOLOGICAL INFORMATION

**Mobility:** The product is miscible with water. May spread in water systems. The product contains organic solvents which will evaporate easily from all surfaces.

**Degradability:** The product is not biodegradable.

**Ecotoxicity:** The product contains substances which are harmful to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Dispose of collected dust according to agreement with local authorities. Waste should be considered as dangerous waste.

**Waste from residues:** EWC-code: 20 01 12

**Contaminated packaging:** Dispose of contaminated packings as residue.
### 14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>UN-number: 1866</th>
<th>Proper shipping name: RESIN SOLUTION, FLAMMABLE (Styrene, Methyl methacrylate)</th>
</tr>
</thead>
</table>

**Sea (IMDG):**
- **Class:** 3.2
- **PG:** II
- **EmS:** 3-05
- **MFAG:** 310
- **MP:** Yes
- **PG:** To be handled locally.

**Land (RID/ADR):**
- **Class:** 3
- **Item:** 5
- **Letter:** b

**Air (ICAO):**
- **Class:** 3
- **PG:** II
15. REGULATORY INFORMATION

Labelling:

Contains:  Methyl methacrylate
           Styrene

R11        Highly flammable.
R36/37/38  Irritating to eyes, respiratory system and skin.
R43        May cause sensitisation by skin contact.
S16        Keep away from sources of ignition - No smoking.
S24        Avoid contact with skin.
S26        In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39     Wear suitable gloves and eye/face protection.

NFPA Rating:

Specific provisions:  TSCA: Listed.
National regulation:  Europe/USA:  This Safety Data Sheet has been prepared according to the EU-regulation.
                      Threshold Limit Values (1999), ACGIH, by the American Conference on Governmental Industrial Hygienists.
16. OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

Transport information (ICAO):
Pass: 305/5 l
Cargo: 307/60 l

Released: 16 March 1995
Approved by DTC.

[Signature]

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DANISH TOXICOLOGY CENTRE, Kogle Allé 2, DK-2970 Hørsholm, Denmark. Telephone +45 45 76 20 55 Telefax +45 45 76 24 55