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

1.1 Product identifier
   Product name : TEMADUR 50
   Product description : A two-component polyurethane paint.

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Recommended use: Painting work

1.3 Details of the supplier of the safety data sheet
   Manufacturer or Distributor
   Tikkurila Oyj
   P.O. Box 53
   FI-01301 VANTAA
   FINLAND
   Telephone +358 20 191 2000
   e-mail address of person responsible for this SDS : Tikkurila Oyj, Product Safety, e-mail: productsafety@tikkurila.com

1.4 Emergency telephone number
   Telephone number : 112 (24h)
   Supplier or Manufacturer : Tikkurila Oyj
   Telephone number : +358 20 191 2000 (GMT +2) Mon-Fri 8-16

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Product definition : Mixture
   Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
   Flam. Liq. 3, H226
   Skin Irrit. 2, H315
   Eye Irrit. 2, H319
   Skin Sens. 1, H317
   STOT SE 3, H335
   STOT RE 2, H373
   Aquatic Chronic 3, H412
   The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

2.2 Label elements
   Hazard pictograms :
   Signal word : Warning
Hazard statements:
- H226 - Flammable liquid and vapor.
- H319 - Causes serious eye irritation.
- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H335 - May cause respiratory irritation.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements:

**General**: Not applicable.

**Prevention**:
- P210 - Keep away from sparks and open flames. - No smoking.
- P261 - Avoid breathing mist/vapors/spray.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/clothing.
- P284 - In case of inadequate ventilation wear respiratory protection.

**Response**:
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Storage**: Not applicable.

**Disposal**: Not applicable.

**Hazardous ingredients**:
- **Hydroxyl bearing polyacrylate**
  - CAS: 37237-99-3
  - ≥25 - ≤50
  - Skin Sens. 1, H317
  - Not applicable.

- **Reaction mass of m-xylene, o-xylene, p-xylene and ethylbenzene hydrocarbons, C9, aromatics**
  - Reaction product of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate
  - CAS: 1330-20-7
  - ≥10 - ≤25
  - Flam. Liq. 3, H226
  - Acute Tox. 4, H312
  - Acute Tox. 4, H332
  - Skin Irrit. 2, H315
  - Eye Irrit. 2, H319
  - STOT SE 3, H335
  - STOT RE 2, H373
  - Asp. Tox. 1, H304

- **Hydrocarbons, C9, aromatics**
  - CAS: 918-668-5
  - ≥10 - ≤19
  - Flam. Liq. 3, H226
  - STOT SE 3, H335
  - STOT SE 3, H336
  - Asp. Tox. 1, H304
  - Aquatic Chronic 1, H411
  - EUH066

- **Aluminium powder (stabilised)**
  - CAS: 7429-90-5
  - ≤5
  - Flam. Sol. 1, H228

- **Reaction product of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate**
  - CAS: 41556-26-7
  - ≤0.57
  - Skin Sens. 1A, H317
  - Aquatic Acute 1, H400 (M=1)
  - Aquatic Chronic 1, H410 (M=1)

**Identification**: See Section 16 for the full text of the H statements declared above.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydroxyl bearing polyacrylate</td>
<td>CAS: 37237-99-3</td>
<td>≥25 - ≤50</td>
<td>Skin Sens. 1, H317</td>
<td>-</td>
</tr>
<tr>
<td>Aluminium powder (stabilised)</td>
<td>REACH #: 01-2119529243-45 EC: 231-072-3 CAS: 7429-90-5 Index: 013-002-00-1</td>
<td>≤5</td>
<td>Flam. Sol. 1, H228</td>
<td>T</td>
</tr>
<tr>
<td>Reaction product of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate</td>
<td>REACH #: 01-2119491304-40 EC: 41556-26-7 CAS: 41556-26-7/82919-37-7</td>
<td>≤0.57</td>
<td>Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)</td>
<td>-</td>
</tr>
</tbody>
</table>

**Version**: 4
SECTION 4: First aid measures

4.1 Description of first aid measures

General: In all cases of doubt, or when symptoms persist, seek medical attention. Show this safety data sheet or label to the doctor if possible.

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with plenty of lukewarm water, keeping eyelids open. Continue to rinse for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners. Get medical attention if symptoms occur.

Ingestion: If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Remove to fresh air and keep at rest in a position comfortable for breathing. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

May cause damage to organs through prolonged or repeated exposure. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause an allergic skin reaction. Inhalation of vapours may cause dizziness, headache and nausea. See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire. Recommended: Alcohol resistant foam, CO₂, powders or water spray/mist.

Unsuitable extinguishing media: Do not use a direct water jet that could spread the fire.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: When exposed to high temperatures, hazardous decomposition products may be produced, such as carbon monoxide and dioxide, smoke, oxides of nitrogen etc.

Hazard from the substance or mixture: Flammable liquid and vapor. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
5.3 Advice for firefighters

Special protective actions for fire-fighters: Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is hazardous to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Avoid breathing vapor or mist. Avoid contact with skin and eyes. See Section 8 for information on appropriate personal protective equipment.

6.2 Environmental precautions: Hazardous to aquatic environment. Do not allow to enter drains, water courses or soil.

6.3 Methods and materials for containment and cleaning up: Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Preferably clean with a detergent. Avoid using solvents.

6.4 Reference to other sections: See Section 1 for emergency contact information. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling: Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. Isolate from sources of heat, sparks and open flame. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. No sparking tools should be used. Skin contact with the product and exposure to spray mist and vapor should be avoided. Avoid contact with skin and eyes. Avoid inhalation of dust from sanding. Wear appropriate respirator when ventilation is inadequate. See Section 8 for information on appropriate personal protective equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled and stored. Wash hands before breaks and immediately after handling the product. Avoid release to the environment.

7.2 Conditions for safe storage, including any incompatibilities: Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store and use away from heat, sparks, open flame or any other ignition source. No smoking. Keep container tightly closed. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Recommended storage temperature is +5°C ...+25°C. Store in accordance with local regulations.

7.3 Specific end use(s): None.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
Product/ingredient name | Exposure limit values
--- | ---
Reaction mass of m-xylene, o-xylene, p-xylene and ethylbenzene | EU OEL (Europe, 12/2017). Absorbed through skin. Notes: list of indicative occupational exposure limit values
TWA: 50 ppm 8 hours.
TWA: 221 mg/m³ 8 hours.
STEL: 100 ppm 15 minutes.
STEL: 442 mg/m³ 15 minutes.

Additional information

Ethylbenzene
EU OEL (Europe, 12/2009). Absorbed through skin.
TWA: 100 ppm 8 hours.
TWA: 442 mg/m³ 8 hours.
STEL: 200 ppm 15 minutes.
STEL: 884 mg/m³ 15 minutes.
Please check your local legislation for national OEL value for ethylbenzene.

Recommended monitoring procedures
If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

DNELs/DMELs
No DNELs/DMELs available.
PNECs
No PNECs available.

8.2 Exposure controls

Appropriate engineering controls
Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof ventilation equipment. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn (see Personal protection for both components). Comply with the health and safety at work laws.

Individual protection measures

Eye/face protection
Use safety eyewear designed to protect against splash of liquids (EN166).

Hand protection
Always wear approved protective gloves against chemicals. Gloves should be replaced regularly and if there is any sign of damage to the glove material. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Recommended glove material (EN374):
< 1 hour (breakthrough time): nitrile rubber
> 8 hours (breakthrough time): fluor rubber, laminated foil
Not recommended: PVC or natural rubber (latex) gloves

Skin protection
Wear suitable protective clothing. This product is classified as flammable. If necessary, personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.

Respiratory protection
If ventilation is inadequate, use respirator that will protect against organic vapor and dust/mist. During spray-application use respirators with combination filter A/P3 (EN405:2001). Wear a half mask or full face respirator with gas and vapor filter A and dust filter P2 during sanding (EN140:1998, EN405:2001). During continuous and long-term work the use of motor-driven or air-fed respirators is recommended (EN12941:1998). Be sure to use an approved/certified respirator or equivalent. Check that mask fits tightly and change filter regularly.

Environmental exposure controls
For information regarding environmental protection measures, please refer to section 13 for waste handling, section 7 for handling and storage and section 1.2 for relevant identified uses of the substance or mixture and uses advised against.
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>Color</td>
<td>Coloured</td>
</tr>
<tr>
<td>Odor</td>
<td>Strong.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not relevant for the hazard assessment of the product.</td>
</tr>
<tr>
<td>pH</td>
<td>Not relevant for the hazard assessment of the product.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>44.96°C (xylene)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>36.16°C (xylene)</td>
</tr>
<tr>
<td>Flash point</td>
<td>25°C (xylene)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>0.77 (butyl acetate = 1) (xylene)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable. Product is a liquid.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Lower: 0.8% (xylene) Upper: 6.7% (xylene)</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.89 kPa [room temperature] (xylene)</td>
</tr>
<tr>
<td>Vapor density</td>
<td>3.7 (xylene)</td>
</tr>
<tr>
<td>Density</td>
<td>1.2 to 1.4 g/cm³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>insoluble in water.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>32°C (xylene)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not relevant for the hazard assessment of the product.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Kinematic (40°C): &gt;20.5 mm²/s &gt;60 s [ISO 6mm cup]</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No explosive ingredients present.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No oxidizing ingredients present.</td>
</tr>
</tbody>
</table>

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

See Section 10.5.

10.2 Chemical stability

Stable under recommended storage and handling conditions (see Section 7).

10.3 Possibility of hazardous reactions

May present an explosion hazard when material is suspended in air in confined areas or equipment and subjected to spark, heat or flame.

10.4 Conditions to avoid

Avoid extreme heat and freezing. Avoid all possible sources of ignition (spark or flame).

10.5 Incompatible materials

Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents strong acids strong alkalis

10.6 Hazardous decomposition products

When exposed to high temperatures, hazardous decomposition products may be produced, such as carbon monoxide and dioxide, smoke, oxides of nitrogen etc.
SECTION 11: Toxicological information

11.1 Information on toxicological effects

There is no testdata available on the product itself. The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting.

Acute toxicity
Not classified.

Irritation/Corrosion
Causes skin irritation. Causes serious eye irritation.

Sensitization
May cause an allergic skin reaction.

Mutagenicity
Not classified.

Carcinogenicity
Not classified.

Reproductive toxicity
Not classified.

Teratogenicity
Not classified.

Specific target organ toxicity (single exposure)
May cause respiratory irritation.

Specific target organ toxicity (repeated exposure)
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
Not classified.

SECTION 12: Ecological information

Ecological testing has not been conducted on this product. Do not allow to enter drains, water courses or soil.

The product is classified as environmentally hazardous according to Regulation (EC) 1272/2008. Harmful to aquatic life with long lasting effects.

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrocarbons, C9, aromatics</td>
<td>LC50 1 mg/l</td>
<td>Fish</td>
<td>96 hours</td>
</tr>
<tr>
<td>reaction product of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl-1,2,2,6, 6-pentamethyl-4-piperidylsebacate</td>
<td>LC50 0.9 mg/l</td>
<td>Fish - Brachydanio rerio</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 0.97 mg/l</td>
<td>Fish - Lepomis macrochirus</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability
12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>Bioconcentration factor [BCF]</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction mass of m-xylene, o-xylene, p-xylene and ethylbenzene</td>
<td>3.12</td>
<td>8.1 to 25.9</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

| Soil/water partition coefficient (K_{oc}) | Not available. |
| Mobility | Not available. |

12.5 Results of PBT and vPvB assessment

| PBT | Not applicable. |
| vPvB | Not applicable. |

12.6 Other adverse effects

: Not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal

: Gather residues into waste containers. Liquid residue and cleaning liquids are hazardous waste and must not be emptied into drains or sewage system, but handled in accordance with national regulations. Product residues should be left at special companies which have permission for gathering this kind of wastes.

European waste catalogue (EWC)

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 01 11*</td>
<td>waste paint and varnish containing organic solvents or other hazardous substances</td>
</tr>
</tbody>
</table>

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

Packaging

Methods of disposal

: Empty packaging should be recycled or disposed of in accordance with national regulations.

Special precautions

: None.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>UN1263</th>
<th>UN1263</th>
<th>UN1263</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>PAINT</td>
<td>PAINT</td>
<td>PAINT</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
Viscous substance exemption: This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.

Emergency schedules: F-E,S-E

Viscous substance exemption: This class 3 viscous liquid is not subject to regulation in packagings up to 30 L according to 2.3.2.5.

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Not available.

This product contains substances for which Chemical Safety Assessments are still required.

This product is in scope of Directive 2004/42/CE.

This product contains substances for which Chemical Safety Assessments are still required.
Full text of abbreviated H statements

- H226: Flammable liquid and vapor.
- H228: Flammable solid.
- H304: May be fatal if swallowed and enters airways.
- H312: Harmful in contact with skin.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H336: May cause drowsiness or dizziness.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.
- H411: Toxic to aquatic life with long lasting effects.
- H412: Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

- Acute Tox. 4, H312: ACUTE TOXICITY (dermal) - Category 4
- Acute Tox. 4, H332: ACUTE TOXICITY (inhalation) - Category 4
- Aquatic Acute 1, H400: AQUATIC HAZARD (ACUTE) - Category 1
- Aquatic Chronic 1, H410: AQUATIC HAZARD (LONG-TERM) - Category 1
- Aquatic Chronic 2, H411: AQUATIC HAZARD (LONG-TERM) - Category 2
- Aquatic Chronic 3, H412: AQUATIC HAZARD (LONG-TERM) - Category 3
- Asp. Tox. 1, H304: ASPIRATION HAZARD - Category 1
- EUH066: Repeated exposure may cause skin dryness or cracking.
- Eye Irrit. 2, H319: SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
- Flam. Liq. 3, H226: FLAMMABLE LIQUIDS - Category 3
- Flam. Sol. 1, H228: FLAMMABLE SOLIDS - Category 1
- Skin Irrit. 2, H315: SKIN CORROSION/IRRITATION - Category 2
- Skin Sens. 1, H317: SKIN SENSITIZATION - Category 1
- Skin Sens. 1A, H317: SKIN SENSITIZATION - Category 1A
- STOT RE 2, H373: SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
- STOT SE 3, H335: SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
- STOT SE 3, H336: SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Notice to reader

This Safety Data Sheet is prepared in accordance with Annex II (EU) No 830/2015 to Regulation (EC) No 1907/2006 (REACH). The information contained in this Safety Data Sheet is based on the present state of knowledge and current EU and national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.