Date of issue/ Date of revision : 9/10/2021 **Date of previous issue** : 11/22/2018

SAFETY DATA SHEET

TEMADUR 90

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

1.1 Product identifier

Product name : TEMADUR 90

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

Telephone number : Tikkurila Oyj
+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 heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing mist/vapors/spray.
P280 - Wear protective gloves.
P284 - In case of inadequate ventilation wear respiratory protection.
P273 - Avoid release to the environment.

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.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : hydroxyl bearing polyacrylate
Reaction mass of ethylbenzene and xylene
reaction product of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate

Supplemental label elements : Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Notes
hydroxyl bearing polyacrylate	CAS: 37237-99-3	≥25 - ≤50	Skin Irrit. 2, H315 Skin Sens. 1, H317	-
Reaction mass of ethylbenzene and xylene	REACH #: 01-2119488216-32 EC: 905-588-0 CAS: -	≥25 - ≤50	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	C
hydrocarbons, C9, aromatics	REACH #: 01-2119455851-35 EC: 918-668-5	≤14	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	H,P
aluminium powder (stabilised)	REACH #: 01-2119529243-45 EC: 231-072-3 CAS: 7429-90-5 Index: 013-002-00-1	≤10	Flam. Sol. 1, H228	T
Hydrocarbons, C10, aromatics, < 1 % naphthalene	REACH #: 01-2119463583-34 EC: 918-811-1	≤3	STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	-
reaction product of bis (1,2,2,6,6-pentamethyl-4-piperidyl)	REACH #: 01-2119491304-40 EC: 915-687-0	≤0.56	Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M=1)	-

sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate	CAS: 1065336-91-5		Aquatic Chronic 1, H410 (M=1) **See Section 16 for the full text of the H statements declared above.**	

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Notes, if applicable, refer to Notes given in Annex VI of 1272/2008/EC.

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, CO_2, 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

Hazards 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.

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.

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 ethylbenzene and xylene	**EU OEL (Europe, 10/2019). 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, 10/2019). 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, fluor rubber
> 8 hours (breakthrough time): 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

Appearance		
Physical state	:	Liquid.
Color	:	Coloured
Odor	:	Strong.
Odor threshold	:	Not relevant for the hazard assessment of the product.
pH	:	Not relevant for the hazard assessment of the product.
Melting point/freezing point	:	-94.96°C (xylene)
Initial boiling point and boiling range	:	136.16°C (xylene)
Flash point	:	25°C (xylene)
Evaporation rate	:	0.77 (butyl acetate = 1) (xylene)
Flammability (solid, gas)	:	Not applicable. Product is a liquid.
Upper/lower flammability or explosive limits	:	Lower: 0.8% (xylene) Upper: 6.7% (xylene)
Vapor pressure	:	0.89 kPa [room temperature] (xylene)
Vapor density	:	3.7 (xylene)
Density	:	1 to 1.3 g/cm³
Solubility(ies)	:	insoluble in water.
Partition coefficient: n-octanol/water	:	Not applicable.
Auto-ignition temperature	:	432°C (xylene)
Decomposition temperature	:	Not relevant for the hazard assessment of the product.
Viscosity	:	Kinematic (40°C): >20.5 mm^2/s >60 s [ISO 6mm cup]
Explosive properties	:	No explosive ingredients present.
Oxidizing properties	:	No oxidizing ingredients present.

Particle characteristics

Median particle size	:	Not applicable.

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

Product/ingredient name	Result	Species	Dose	Exposure
Reaction mass of ethylbenzene and xylene	LC50 Inhalation Vapor	Rat	11 mg/l	4 hours
	LD50 Dermal	Rat	1100 mg/kg	-

Not classified.

Irritation/Corrosion

Causes skin irritation. Causes serious eye irritation.

Sensitization

May cause an allergic skin reaction.
The product contains sensitizing substances mentioned in sections 2 and 3.

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 environmetally hazardous according to Regulation (EC) 1272/2008.
Harmful to aquatic life with long lasting effects.

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Hydrocarbons, C9, aromatics	LC50 1 mg/l	Fish	96 hours
Hydrocarbons, C10, aromatics, < 1 % naphthalene	Chronic LC50 2 mg/l	Fish	96 hours
reaction product of bis (1,2,2,6,6-pentamethyl-	LC50 0.9 mg/l	Fish - Brachydanio rerio	96 hours

4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate	LC50 0.97 mg/l	Fish - Lepomis macrochirus	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
hydrocarbons, C9, aromatics	-	78 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
hydrocarbons, C9, aromatics	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	Bioconcentration factor [BCF]	Potential
reaction product of bis (1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate	-	9.65	low
Reaction mass of ethylbenzene and xylene	3.12	8.1 to 25.9	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

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

	ADR/RID	IMDG	IATA
14.1 UN number	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	No.	No.	No.

Additional information

ADR/RID : **Viscous liquid exception** This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.2.3.1.5.1.
Tunnel code (D/E)

IMDG : **Emergency schedules** F-E,S-E
Viscous liquid exception This class 3 viscous liquid is not subject to regulation in packagings up to 450 L according to 2.3.2.5.

14.6 Special precautions for user : **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.

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Other EU regulations

Europe inventory : At least one component is not listed.

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : Listed

Persistent Organic Pollutants
Not listed.

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

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

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 3, H412	Calculation method

Full text of abbreviated H statements :

H226	Flammable liquid and vapor.
H228	Flammable solid.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
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.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS] :

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	AQUATIC HAZARD (ACUTE) - Category 1
Aquatic Chronic 1	AQUATIC HAZARD (LONG-TERM) - Category 1
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Flam. Sol. 1	FLAMMABLE SOLIDS - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITIZATION - Category 1
Skin Sens. 1A	SKIN SENSITIZATION - Category 1A
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3

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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.