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

1.1 Product identifier
Product name : TEMADUR CLEAR
Product code : 0055600
Product description : A two-component polyurethane lacquer.

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
Supervisor or Supplier
Tikkurila Oyj
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  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
STOT SE 3, H336
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
Classification according to Directive 1999/45/EC [DPD]
The product is classified as dangerous according to Directive 1999/45/EC and its amendments.
Classification : R10
Xn; R20/21
Xi; R38
Physical/chemical hazards
Flammable.
Human health hazards : Harmful by inhalation and in contact with skin. Irritating to skin.

2.2 Label elements
Hazard pictograms:

Signal word: Warning
Hazard statements:
H226 - Flammable liquid and vapor.
H315 - Causes skin irritation.
H336 - May cause drowsiness and dizziness.

Precautionary statements:
General: Not applicable.
Prevention:
P261 - Avoid breathing mist/vapors/spray.
P280 - Wear protective gloves.
P285 - In case of inadequate ventilation wear respiratory protection.
P210 - Keep away from sparks and open flames. - No smoking.
Response: Not applicable.
Storage: Not applicable.
Disposal: Not applicable.
Hazardous ingredients:
n-butyl acetate
xylene

Supplemental label elements:
Contains reaction production of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate. May produce an allergic reaction.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures: Mixture

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9</td>
<td>≥10 - &lt;25</td>
<td>R10 Xn; R20/21 Xi; R38 Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4</td>
<td>≥5 - &lt;10</td>
<td>F; R11 Xn; R20, R48/20, R65 Flam. Liq. 2, H225 Acute Tox. 4, H312 STOT RE 2, H373 (ears) Asp. Tox. 1, H304</td>
</tr>
<tr>
<td>reaction production 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</td>
<td>&lt;0,1</td>
<td>R43 N; R50/53 Skin Sens. 1A, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

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. |
| 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

Causes skin irritation. May cause drowsiness and dizziness. See Section 11 for more detailed information on health effects and symptoms.

Contains:
- reaction production of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate
- May produce an allergic reaction.

#### 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

| 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 thermal decomposition products | When exposed to high temperatures, may produce hazardous decomposition products, 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. Do not release runoff from fire to drains or watercourses. |
TEMADUR CLEAR

Date of previous issue: No previous validation.
Date of issue/Date of revision: 19-05-2015.

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. Avoid direct skin contact with product. Avoid breathing vapor or mist. Provide adequate ventilation. See Section 8 for information on appropriate personal protective equipment.

6.2 Environmental precautions: 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 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.

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). No smoking. Store and use away from heat, sparks, open flame or any other ignition source. Keep container tightly closed. Containers that have been opened must be carefully resaled 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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>EU OEL (Europe, 12/2009). Absorbed through skin. Notes: list of indicative occupational exposure limit values</td>
</tr>
<tr>
<td></td>
<td>TWA: 50 ppm 8 hours.</td>
</tr>
<tr>
<td></td>
<td>TWA: 221 mg/m³ 8 hours.</td>
</tr>
<tr>
<td></td>
<td>STEL: 100 ppm 15 minutes.</td>
</tr>
<tr>
<td></td>
<td>STEL: 442 mg/m³ 15 minutes.</td>
</tr>
<tr>
<td>2-methoxy-1-methylethyl acetate</td>
<td>EU OEL (Europe, 12/2009). Absorbed through skin. Notes: list of indicative occupational exposure limit values</td>
</tr>
</tbody>
</table>

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Date of previous issue
No previous validation.


Date of issue/Date of revision

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.

EU OEL (Europe, 12/2009). Absorbed through skin. Notes: list of indicative occupational exposure limit values
TWA: 100 ppm 8 hours.
TWA: 442 mg/m³ 8 hours.
STEL: 200 ppm 15 minutes.
STEL: 884 mg/m³ 15 minutes.

Hand 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.

Wear protective gloves. 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

Use safety eyewear designed to protect against splash of liquids (EN166).

Eye/face protection
Respiratory protection

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.

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 vapors below the OEL, suitable respiratory protection must be worn (see Personal protection for both components). Comply with the health and safety at work laws.

8.2 Exposure controls
Individual protection measures

Brain/eye protection:

8.1 Information on first aid measures

References

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
Physical state: Liquid.
Color: Clear.
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: <-90°C (n-butyl acetate)
Initial boiling point and boiling range: 126°C (n-butyl acetate)
Flash point: 23 °C (n-butyl acetate)
Evaporation rate: 1 (butyl acetate = 1) (n-butyl acetate)
Flammability (solid, gas): Not applicable. Product is a liquid.
Upper/lower flammability or explosive limits:
Upper: 7.6% (n-butyl acetate)
Lower: 1.4% (n-butyl acetate)
Vapor pressure: 1.5 kPa [room temperature] (n-butyl acetate)
Vapor density: 4 (n-butyl acetate)
Density: 0.98 g/cm³
Solubility(ies): insoluble in water.
Partition coefficient: n-octanol/water: Not available.
Auto-ignition temperature: 415°C (n-butyl acetate)
Decomposition temperature: Not relevant for the hazard assessment of the product.
Viscosity: Not relevant for the hazard assessment of the product.
Explosive properties: No explosive ingredients present.
Oxidizing properties: No oxidizing ingredients present.

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
<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>22 mg/l</td>
<td>4 hours</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>1700 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>4300 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>ethylbenzene</td>
<td>LC50 Inhalation Gas.</td>
<td>Rabbit</td>
<td>4000 ppm</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

Not classified.

Irritation/Corrosion
Causes skin irritation.

Sensitization
Contains small amounts of sensitizing substances:
reaction production of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl-1,2,2,6,6-pentamethyl-4-piperidylsebacate

Mutagenicity
Not classified.

Carcinogenicity
Not classified.

Reproductive toxicity
Not classified.

Teratogenicity
Not classified.

Specific target organ toxicity (single exposure)
May cause drowsiness and dizziness.

Specific target organ toxicity (repeated exposure)
Not classified.

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 not classified as environmentally hazardous according to Regulation (EC) 1272/2008.

#### 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>reaction production 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

: No specific data.

#### 12.3 Bioaccumulative potential

: No specific data.

#### 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : 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 dangerous 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></th>
<th>ADR/RID</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td>UN1263</td>
<td>UN1263</td>
<td>UN1263</td>
</tr>
<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>
<tr>
<td>14.4 Packing group</td>
<td>III</td>
<td>III</td>
<td>III</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>Special provisions 640 (E)</td>
<td>Emergency schedules (EmS) F-E,S-E</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Tunnel code (D/E)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 Annex II of MARPOL 73/78 and the IBC Code

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: Not determined.

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]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3, H226</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>Skin Irrit. 2, H315</td>
<td>Calculation method</td>
</tr>
<tr>
<td>STOT SE 3, H336</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements:

H225 Highly flammable liquid and vapor.
H226 Flammable liquid and vapor.
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.
H332 Harmful if inhaled.
H336 May cause drowsiness and 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.

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
Asp. Tox. 1, H304 ASPIRATION HAZARD - Category 1
Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3, H326 FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1A, H317 SKIN SENSITIZATION - Category 1A
STOT RE 2, H373 (ears) SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (ears) - Category 2
STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
Full text of abbreviated R phrases:
R11 - Highly flammable.
R10 - Flammable.
R20 - Harmful by inhalation.
R20/21 - Harmful by inhalation and in contact with skin.
R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65 - Harmful: may cause lung damage if swallowed.
R38 - Irritating to skin.
R43 - May cause sensitization by skin contact.
R66 - Repeated exposure may cause skin dryness or cracking.
R67 - Vapors may cause drowsiness and dizziness.
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications [DSD/DPD]:
- F - Highly flammable
- Xn - Harmful
- Xi - Irritant
- N - Dangerous for the environment

Date of issue/Date of revision: 19-05-2015.
Date of previous issue: No previous validation.
Version: 1

Notice to reader:
This Safety Data Sheet is prepared in accordance with Annex II (EU) No 453/2010 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.