

**HARDENER 007 1271**

Date 16.7.2008

Previous date: 21.12.2005

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

- 1.1 Identification of the article**
- 1.1.1 Commercial Product Name**  
HARDENER 007 1271
- 1.1.2 Product code**  
007 1271
- 1.2 Use of the Substance/Preparation**
- 1.2.1 Intended use**  
Painting work  
Description: Polyurethane hardener
- 1.3 Identification of the company**
- 1.3.1 Supplier**  
Tikkurila Oyj
- 1.3.2 Contact information:**
- P.O.Box** P.O.Box 53  
**Postcode and post office** FI-01301 VANTAA  
FINLAND
- Telephone** +358 9 857 71  
**Telefax** +358 9 8577 6936
- 1.3.4 Responsible for the Safety Data Sheet:**  
Tikkurila Oy, Product Safety, e-mail: productsafety@tikkurila.com
- 1.4 Emergency telephone number**
- 1.4.1 Telephone number, name and address**  
Tikkurila Oy, Environment and Safety: +358 9 857 71

**2. HAZARDS IDENTIFICATION**

Highly flammable, F  
Harmful, Xn  
Harmful by inhalation. Irritating to skin. May cause sensitization by inhalation and skin contact. Possible risk of harm to the unborn child. Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
Information on hazard labelling in section 15.1.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

3.1	Hazardous components		3.1.2 Chemical name of the substance	3.1.3 Concentration	3.1.4 Classification
	3.1.1 CAS number	EINECS			
	9017-01-0	-	Isocyanate resin	10 - 25 %	Xi; R43
	26471-62-5	247-722-4	Toluene diisocyanate (TDI)	< 0,5 %	T+; R26-36/37/38-40-42/43-52/53
	108-88-3	203-625-9	Toluene	25 - 50 %	F, Xn; R11-38-48/20-63-65-67
	141-78-6	205-500-4	Ethyl acetate	2,5 - 10 %	F, Xi; R11-36-66-67
	123-86-4	204-658-1	n-Butyl acetate	10 - 25 %	-; R10-66-67
	110-19-0	203-745-1	Iso-butyl acetate	10 - 25 %	F; R11-66
	78-93-3	201-159-0	Methyl ethyl ketone	10 - 25 %	F, Xi; R11-36-66-67

**4. FIRST AID MEASURES**

- 4.1 Additional advice**  
In all cases of doubt, or when symptoms persist, seek medical attention.

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- 4.2 Inhalation**  
Remove to fresh air, keep patient warm and at rest.
- 4.3 Skin contact**  
Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognized skin cleanser.
- 4.4 Eye contact**  
Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart and seek medical advice.
- 4.5 Ingestion**  
If accidentally swallowed obtain immediate medical attention. Keep at rest. DO NOT induce vomiting.

**5. FIRE-FIGHTING MEASURES**

- 5.1 Suitable extinguishing media**  
Use foam, CO<sub>2</sub>, powder or water spray.
- 5.2 Extinguishing media which must not be used for safety reasons**  
Waterjet
- 5.3 Specific hazards**  
Fire will produce dense black smoke, which contains decomposition products. Avoid breathing the smoke.

**6. ACCIDENTAL RELEASE MEASURES**

- 6.1 Personal precautions**  
Avoid breathing vapours. Exclude sources of ignition.
- 6.2 Environmental precautions**  
Do not allow to enter drains or water courses.
- 6.3 Methods for cleaning up**  
Contain and collect spillage with non-combustible absorbent materials, e.g. sand or vermiculite and place in a suitable container. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts) / ethanol or isopropanol (50 parts) / concentrated ammonia (5 parts). A non-flammable alternative is sodium carbonate (5 parts) / water (95 parts). Add the same decontaminant to the remnants and let stand for several days in non-sealed container until no further reaction. Once this stage is reached, close container and dispose of according to local regulations.

**7. HANDLING AND STORAGE**

- 7.1 Handling**  
Vapours are heavier than air and may form explosive mixtures with air. Good ventilation must be provided. Keep away from sources of ignition. Take precautionary measures against static discharges.
- 7.2 Storage**  
Keep containers tightly closed. Store in a cool, dry, well ventilated place away from sources of heat and direct sunlight. Precautions should be taken to minimize exposure to atmospheric humidity or water: carbon dioxide will be formed which in closed containers can result in pressurisation. Care should be taken when re-opening partly used containers.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

- 8.1 Exposure Limit Values**
- 8.1.1 Occupational exposure limit values**
- |                            |                 |
|----------------------------|-----------------|
| Toluene diisocyanate (TDI) | 0,005 ppm (8 h) |
| Toluene                    | 20 ppm (8 h)    |
| Ethyl acetate              | 400 ppm (8 h)   |
| n-Butyl acetate            | 150 ppm (8 h)   |
| Iso-butyl acetate          | 150 ppm (8 h)   |
| Methyl ethyl ketone        | 200 ppm (8 h)   |

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**8.1.2 Information on limit values**

TLV-TWA = Threshold Limit Values - Time-weighted average / ACGIH 2007

**8.2 Exposure controls****8.2.1 Occupational exposure controls**

Provide adequate ventilation. When handling paints containing isocyanates all precautions required for solvent-containing paints must be followed. Vapour and spray mist in particular should not be inhaled. Allergics and asthmatics as well as people prone to respiratory ailments should not work with isocyanate containing paints. Comply with the health and safety at work laws.

**8.2.1.1 Respiratory protection**

If ventilation is insufficient, use appropriate certified respirators with gas, vapour and dust filter AP. During spray-application or during continuous and long-term work, an air-fed protective respiratory equipment must be worn even when good ventilation is provided.

**8.2.1.2 Hand protection**

Always wear approved protective gloves (e.g. nitrile rubber) against chemicals. Barrier creams may also help to protect the exposed areas of the skin.

**8.2.1.3 Eye protection**

Safety eyewear must be used, specially during spray-application.

**8.2.1.4 Skin and body protection**

Use suitable protective clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 General Information (appearance, odour)**

Viscous liquid, strong odour

**9.2 Important Health Safety and Environmental Information****9.2.2 Boiling point/range** + 77 °C \*)**9.2.3 Flash point** - 1 °C**9.2.5 Explosive properties****9.2.5.1 Lower explosion limit** 2,2 vol-% \*)**9.2.5.2 Upper explosion limit** 11 vol-% \*)**9.2.7 Vapour pressure** 9,7 kPa (20 °C) \*)**9.2.8 Relative density** 0,97**9.2.9 Solubility****9.2.9.1 Water solubility** Insoluble**9.2.11 Viscosity** flow time more than 30 sec / ISO 3 mm cup**9.3 Other data**

Evaporation rate (BuAc=1) :4,2 \*)

\*) = Ethyl acetate

**10. STABILITY AND REACTIVITY****10.1 Conditions to avoid**

Solvent vapours may form explosive mixtures with air.

**10.2 Materials to avoid**

Keep away from oxidizing agents, strongly alkaline and strongly acid materials, amines and alcohols. Uncontrolled exothermic reactions occur with amines and alcohols. Reacts with water resulting in evolution of carbon dioxide (CO<sub>2</sub>). In closed containers, the pressure build up could result in bursting of the container.

**10.3 Hazardous decomposition products**

Fire will produce dense black smoke. Hazardous decomposition products, such as smoke, carbon monoxide, oxides of nitrogen, hydrogen cyanide and isocyanate compounds, may be produced in a fire or when exposed to high temperatures -e.g. when welding or flame cutting a painted surface. Exposure to decomposition products may cause a health hazard.

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**11. TOXICOLOGICAL INFORMATION****11.1 Acute toxicity**

See section 11.5

**11.2 Primary irritation**

See section 11.5.

**11.3 Sensitisation**

Exposure by inhalation and skin contact may cause sensitization. Based on the properties of the isocyanate components and considering toxicological data on similar preparations, this preparation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability.

**11.5 Human experience**

11.5.1 Inhalation: Solvent vapours and spray mist harmful if inhaled. Long term exposure to component solvent vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache and dizziness.

11.5.2 Skin contact: Repeated or prolonged contact with the preparation may cause removal of the natural fat from the skin resulting in contact dermatitis. Splashes in the eyes may cause irritation.

11.5.3 Other effects: Harmful if taken internally. The product contains toluene. Possible risk of harm to the unborn child.

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**12. ECOLOGICAL INFORMATION****12.6 Other adverse effects**

There is no data available on the preparation itself. The product should not be allowed to enter drains or water courses.

**13. DISPOSAL CONSIDERATIONS**

13.1 Product residues: Gather residues into waste containers. Destroy according to the rules given by local authorities. EWC-code for liquid waste is e.g 08 01 11 (waste paint and varnish containing organic solvents or other dangerous substances).

13.2 Packaging waste: Empty cans should be recycled or disposed of in accordance with local regulations.

**14. TRANSPORT INFORMATION**

<b>14.1</b>	<b>UN No</b>	1263
<b>14.2</b>	<b>Packing group</b>	II
<b>14.3</b>	<b>Land transport</b>	
<b>14.3.1</b>	<b>ADR/RID Class</b>	3
<b>14.3.3</b>	<b>Description of the goods</b>	paint related material
<b>14.4</b>	<b>Sea transport</b>	
<b>14.4.1</b>	<b>IMDG Class</b>	3
<b>14.4.2</b>	<b>Proper shipping name</b>	paint related material
<b>14.4.3</b>	<b>Further Information</b>	EmS: F-E,S-E
<b>14.5</b>	<b>Air transport</b>	
<b>14.5.1</b>	<b>ICAO/IATA Class</b>	3
<b>14.5.2</b>	<b>Proper shipping name</b>	paint related material

**15. REGULATORY INFORMATION**

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**15.1 Information on the warning label****15.1.1 Letter code of the warning symbol and indications of danger for the preparation**

F Highly flammable  
Xn Harmful

**15.1.2 Names of the ingredients given on the warning label**

Isocyanate resin  
Toluene diisocyanate  
Toluene

**15.1.3 R-phrases(s)**

R11 Highly flammable.  
R20 Harmful by inhalation.  
R38 Irritating to skin.  
R42/43 May cause sensitization by inhalation and skin contact.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
R63 Possible risk of harm to the unborn child.

**15.1.4 S-phrases(s)**

S16 Keep away from sources of ignition - No smoking.  
S23 Do not breathe vapour/spray.  
S24 Avoid contact with skin.  
S29 Do not empty into drains.  
S33 Take precautionary measures against static discharges.  
S36/37 Wear suitable protective clothing and gloves.  
S38 In case of insufficient ventilation, wear suitable respiratory equipment.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**15.1.5 Special regulations on certain preparations**

Contains isocyanates. See information supplied by the manufacturer.

**16. OTHER INFORMATION****16.1 Full text of R-phrases referred to under sections 2 and 3**

R43 May cause sensitization by skin contact.  
R11 Highly flammable.  
R20 Harmful by inhalation.  
R38 Irritating to skin.  
R42/43 May cause sensitization by inhalation and skin contact.  
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.  
R63 Possible risk of harm to the unborn child.  
R10 Flammable.  
R26 Very toxic by inhalation.  
R36 Irritating to eyes.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R40 Limited evidence of a carcinogenic effect.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R65 Harmful: may cause lung damage if swallowed.  
R66 Repeated exposure may cause skin dryness or cracking.  
R67 Vapours may cause drowsiness and dizziness.

**16.4 Additional information**

The information of this MSDS is based on the present state of our knowledge and on current EC laws. It is meant as a description of the safety requirements of our product: it is not to be considered as a guarantee of the products' properties.

Additional information available from: Tikkurila Oy, Product Safety, P.O. Box 53, FIN-01301 VANTAA, FINLAND, Telephone +358 9 857 71, Fax +358 9 8577 6936, E-mail: productsafety@tikkurila.com

**Signature**

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