



1. Identification of the substance/preparation and of the company/undertaking

Identification of the substance or preparation

TIP TOP HARDENER E 40

Art.-No.:

525 1067, 525 1122, 525 3168, 525 3182 593 0883

Use of the substance/preparation

Hardener

Company/undertaking identification

REMA TIP TOP GmbH a company of the group
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Telephone ++49 (0) 8121 / 707 - 0

Inquiry office

Emergency telephone :++49 (0) 6132 / 84463 (GBK Gefahrgut Buero GmbH, Ingelheim)

Responsible for the safety data sheet: sds@gbk-ingelheim.de

2. Hazards identification

Classification

Indications of danger : Highly flammable, Harmful

R-phrases :

Highly flammable.

Irritating to eyes.

May cause sensitization by inhalation.

Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness.

3. Composition/information on ingredients

Chemical characterization (preparation)

Preparation with thiophosphate in ethyl acetate

Hazardous components

EC-No.	CAS-No.	Chemical name	Quantity	Classification
205-500-4	141-78-6	Ethyl acetate	< 75 %	F, Xi R11-36-66-67
223-981-9	4151-51-3	Thionophosphoric acid-tris-(p-isocyanatophenyl)	< 30 %	Xn R42
203-628-5	108-90-7	Chlorobenzene	< 1 %	Xn, N R10-20-51-53

Full text of each relevant R phrase can be found in heading 16.

4. First aid measures

General information

Remove contaminated soaked clothing immediately.

In the event of persistent symptoms receive medical treatment.

Take away from danger area and lay down affected person.

After inhalation

Move to fresh air in case of accidental inhalation of vapours.

In the event of symptoms refer for medical treatment.



After contact with skin

Wash off with soap and plenty of water.
Remove mechanically using a cloth or paper.
Consult a doctor if skin irritation persists.

After contact with eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical treatment by eye specialist.

After ingestion

Induce vomiting only upon the advice of a physician.
Rinse mouth.
Do not induce vomiting.
Summon a doctor immediately.

Advice to doctor

Attention. Beware, danger of aspiration.

5. Fire-fighting measures

Suitable extinguishing media

Foam, carbon dioxide (CO₂), dry chemical, water-spray.

Extinguishing media which must not be used for safety reasons

Full water jet

Special exposure hazards arriving from substance or preparation itself, combustion products, resulting gases

Fire may produce:

Chlorinated hydrocarbons, Hydrogen cyanide (HCN), Isocyanates (NCO), Carbon monoxide (CO), carbon dioxide (CO₂), phosphorus oxides (PO_x) and nitrogen oxides (NO_x).

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply.

Protective suit

Additional information

The vapour/air mixture is explosive, even in empty, uncleaned receptacles.

Cool containers at risk with water spray jet.

Collect contaminated firefighting water separately, must not be discharged into the drains.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

6. Accidental release measures

Personal precautions

In case of vapour formation use respirator.

Ensure adequate ventilation.

Remove persons to safety.

Use personal protective clothing.

Keep away sources of ignition.

Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up/taking up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).

Shovel into suitable container for disposal.



Additional information

No not container for disposal.

Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

7. Handling and storage

Handling

Advice on safe handling

Keep containers dry and tightly closed to avoid moisture absorption and contamination.

In case of insufficient ventilation, especially in confined areas.

Keep a good ventilation and air-exhaust at the place of work.

Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion

Keep away from heat and sources of ignition.

Do not smoke.

Take precautionary measures against static discharges.

Use only explosion-proof equipment.

Storage

Requirements for storage rooms and vessels

Keep container tightly closed in a dry, cool and well-ventilated place.

Pay attention to anti-explosion rules.

Avoid temperatures above 50°C.

Advice on storage compatibility

Incompatible with:

Amines, Alcohols, Acids and bases.

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

Storageclass (VCI)

3 A

8. Exposure controls/personal protection

Exposure limit values

Exposure limits (EH40)

CAS No.	Substance	ml/m ³	mg/m ³	F/ml	Category	Origin
108-90-7	Chlorobenzene	1	-		TWA (8 h)	WEL
	Chlorobenzene	3	-		STEL (15 min)	WEL
141-78-6	Ethyl acetate	200	-		TWA (8 h)	WEL
	Ethyl acetate	400	-		STEL (15 min)	WEL

Exposure controls

Occupational exposure controls

Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures

Avoid contact with eyes and skin.

Wash hands before breaks and immediately after handling the product.

When using, do not eat, drink or smoke.

Treat subsequently with skin cream.

Remove and wash contaminated clothes before re-use.



Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A).

Hand protection

Splash protection:

Protective gloves resistant to chemicals made off butyl, Minimum coat thickness 0,7 mm, Permeation resistance (wear duration) approx. 120 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de. This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Eye protection

Eye wash bottle with pure water.

Tightly fitting goggles

Skin protection

Long sleeved clothing.

9. Physical and chemical properties

General information

Physical state	Liquid
Colour	Yellowy-brown
Odour	Ester-like

Important health, safety and environmental information

		Test method
Changes in the physical state		
Boiling point	77 °C	
Flash point	- 4 °C	DIN 51755
Flammability		
Lower explosion limits	2,1 vol. %	
Upper explosion limits	11,5 vol. %	
Ignition temperature	460 °C	approx.
Vapour pressure :	97 hPa	approx.
at (20 °C)		
Density (at 20 °C) :	approx. 1 g/cm³	DIN 53217
Water solubility :	Reacts with water	
at (20 °C)		
Solubility in other solvents	Acetone, dichloromethane :	
	Bemerkung : Miscible	
Viscosity / dynamic :	approx. 3 mPa·s	DIN 53015
at (20 °C)		
Solvent content		
< 70 %		

10. Stability and reactivity

Conditions to avoid

To avoid thermal decomposition, do not overheat.

Vapour/air mixtures are explosive at intensive warming.

Heating can release vapours which can be ignited.



Materials to avoid

Alcohols, Amines, Acids and bases

Hazardous decomposition products

Isocyanates, Chlorinated hydrocarbons, Hydrogen cyanide gas., Carbon monoxide (CO), carbon dioxide (CO₂), phosphorus oxides (PO_x) and nitrogen oxides (NO_x)

Additional information

Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

11. Toxicological information

Acute toxicity

LD50/oral/rat: > 2000 mg/kg

Corrosive and irritant effects

Skin irritation (rabbit): Non-irritant

Eyes irritation (rabbit): Slightly irritating

Empirical data on effects on humans

Irritating to eyes.

Vapours may cause drowsiness and dizziness.

Repeated exposure may cause skin dryness or cracking.

Sensitization through inhalation possible.

Evaporation of solvents may cause irritation to eyes and mucous membranes.

12. Ecological information

Further information

Do not flush into surface water or sanitary sewer system.

Slightly water hazardous.

The transformation with water into CO₂ and polyureas is strongly stimulated by so-called liquid crushers (ammonia, soda or alcohols, combined with liquid soap).

In aqueous systems, formation of insoluble and chemically inert (inactive) polyureas.

13. Disposal considerations

Advice on disposal

Where possible recycling is preferred to disposal.

Can be incinerated, when in compliance with local regulations.

Waste disposal number of waste from residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other dangerous substances

Classified as hazardous waste.

Contaminated packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Packaging that cannot be cleaned should be disposed of like the product.

14. Transport information

Safety Data Sheet according to Regulation (EU) No. 1907/2006

REMA TIP TOP GmbH

Revision date : 10.10.2007

Revision no. : 1,15

TIP TOP HARDENER E 40

00156-0026

**Land transport (ADR/RID)**

ADR/RID class	3
Classification code :	F1
Hazard-no.	33
UN number	1133
Hazard label	3
ADR/RID packing group	II
Limited quantity	LQ 6

Description of the goods

Adhesives

Remarks (land transport)

LQ 6: combination packaging: 5 l / 30 kg (total gross mass); trays: 1 l / 20 kg (total gross mass).

Inland waterways transport**Marine transport**

IMDG code	3
UN number	1133
Marine pollutant	No
EmS	F-E; S-D
IMDG packing group	II
Limited quantity :	5 L / 30 kg
Hazard label	3

Description of the goods

ADHESIVES

Remarks (marine transport)

Limited quantities (section 3.4): combination packaging: 5 l / 30 kg (total gross mass); trays: 5 l / 20 kg (total gross mass).

Air transport

ICAO/IATA-DGR	3
UN/ID number	1133
Hazard label	3
IATA-packing instructions - Passenger	305
IATA-max. quantity - Passenger	5 L
IATA-packing instructions - Cargo	307
IATA-max. quantity - Cargo	60 L
ICAO packing group	II
Limited quantity Passenger	Y305 / 1 L

Description of the goods

ADHESIVES

15. Regulatory information**Labelling**

Indication of danger F - Highly flammable; Xn - Harmful

Additional advice on labelling According to EC-regulations the product is to be labelled as follows:

Hazardous component(s) to be indicated on label

Thionophosphoric acid-tris-(p-isocyanatophenyl)



R phrases

- 11 Highly flammable.
- 36 Irritating to eyes.
- 42 May cause sensitization by inhalation.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

S phrases

- 16 Keep away from sources of ignition - No smoking.
- 23 Do not breathe vapour.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 35 This material and its container must be disposed of in a safe way.
- 51 Use only in well-ventilated areas.

Special labelling for certain preparations

Contains isocyanates. See information supplied by the manufacturer.

National regulatory information

Employment restrictions	Observe employment restrictions for young people.; Observe employment restrictions for child bearing mothers and nursing.
Water contaminating class 1999/13/EC (VOC)	1 - slightly water contaminating < 75%

16. Other information

Full text of R-phrases referred to under sections 2 and 3

- 10 Flammable.
- 11 Highly flammable.
- 20 Harmful by inhalation.
- 36 Irritating to eyes.
- 42 May cause sensitization by inhalation.
- 51 Toxic to aquatic organisms.
- 53 May cause long-term adverse effects in the aquatic environment.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

Other data

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product (s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

"(n.a. = not applicable; n.d. = not determined)"

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)