



Safety Data Sheet

According to the Model WHS Regulations and the ADG code

TIP TOP HARDENER E40

Revision date: 19.05.2017

Product code: 00156-0026AUS

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

1.1. Product identifier

TIP TOP HARDENER E40

Art.-No.

517 8009, 525 1067, 525 1122, 525 1139, 525 1146

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture

Hardener

1.3. Details of the supplier of the safety data sheet

Company name:	REMA TIP TOP Australia Pty Ltd.	
Street:	Building 3, 20 Worth Street,	
Place:	Chullora,	
	NSW 2190 / Australia	
Telephone:	+61-2-8755 8400	Telefax: +61-2-9742 3159
Internet:	www.rema-tiptop.com.au	
Responsible Department:	Responsible for the safety data sheet: sds@gbk-ingelheim.de	

1.4. Emergency telephone number:

+61-280735031, Infotrac/GBK GmbH-ID: 93591

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS CHEMICAL ACCORDING TO SAFE WORK AUSTRALIA AND WHS CRITERIA
CLASSIFIED AS DANGEROUS GOODS ACCORDING TO THE ADG CODE
POISON SCHEDULE: none allocated

Classification according to WHS

Hazard categories:
Flammable liquid: Flam. Liq. 2
Specific target organ toxicity - single exposure: STOT SE 3
Hazard Statements:
Highly flammable liquid and vapour.
May cause drowsiness or dizziness.

2.2. Label elements

Component(s) to be indicated on the label

Ethyl acetate 60 - < 75 %
Thionophosphoric acid-tris-(p-isocyanatophenyl) 10 - < 30 %

Signal word: Danger

Pictograms:



flame



exclamation mark

Hazard statements

H225 Highly flammable liquid and vapour.
H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.



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P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P501	Dispose of contents/container to approved disposal company or local collection.

Special labelling of certain mixtures

AUH066 Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Vapours may form explosive mixture with air.
Contains: Isocyanates. May produce an allergic reaction.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Preparation with thiophosphate in ethyl acetate

Hazardous components

CAS No	Chemical name	Quantity
EC No	Classification according to WHS criteria	
141-78-6	Ethyl acetate	60 - < 75 %
205-500-4	Flam. Liq. 2, Eye Irrit. 2A, STOT SE 3; H225 H319 H336 AUH066	
4151-51-3	Thionophosphoric acid-tris-(p-isocyanatophenyl)	10 - < 30 %
223-981-9	Acute Tox. 4; H302	
	non hazardous ingredients	< 5 %

Full text of H and AUH phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of 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.
Consult a doctor if skin irritation persists.



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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

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

4.2. Most important symptoms and effects, both acute and delayed

May cause drowsiness or dizziness.
Repeated exposure may cause skin dryness or cracking.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

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).

5.3. Advice for firefighters

Use breathing apparatus with independent air supply.
Protective suit.
HAZCHEM: •3YE

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

In case of vapour formation use respirator.
Ensure adequate ventilation.
Remove persons to safety.
Use personal protective clothing.
Keep away sources of ignition.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/ground water.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Shovel into suitable container for disposal.
Container should not be gas-tight closed.
Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).



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Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe 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.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry, cool and well-ventilated place.
Pay attention to anti-explosion rules.

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.

7.3. Specific end use(s)

Hardener

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits (OEL) - Australia

CAS No	Substance	ppm	mg/m ³	Category
141-78-6	Ethyl acetate	200	720	TWA
141-78-6	Ethyl acetate	400	1440	STEL
108-90-7	Chlorobenzene	10	46	TWA
108-90-7	Chlorobenzene	-	-	STEL

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
141-78-6	Ethyl acetate	200	-	-	TWA (8 h)	WEL
		400	-	-	STEL (15 min)	WEL

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures

Do not inhale vapours.
Wash hands before breaks and immediately after handling the product.
When using do not eat, drink or smoke.
Treat subsequently with skin cream.
Avoid contact with skin, eyes and clothing.



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Remove and wash contaminated clothes before re-use.

Eye/face protection

Safety goggles with side protection (splash protection) or tightly fitting goggles.
Eye wash bottle with pure water.

Hand protection

Splash protection:

Protective gloves resistant to chemicals made off nitrile, Minimum coat thickness 0.4 mm, Permeation resistance (wear duration) > 10 minutes.

Protective gloves resistant to chemicals made off butyl, minimum coat thickness 0.7 mm, permeation resistance (wear duration) > 60 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.

Skin protection

Long sleeved clothing.

Respiratory protection

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Colour: Yellowish
Odour: Ester-like

Test method

pH-Value: No information available.

Changes in the physical state

Melting point: No information available.

Initial boiling point and boiling range: approx. 77 °C

Flash point: approx. - 4 °C DIN 51755

Flammability

Solid: No information available.

Explosive properties

No information available.

Lower explosion limits: 2.2 vol. %

Upper explosion limits: 11.5 vol. %

Ignition temperature: approx. 460 °C

Auto-ignition temperature

Solid: No information available.

Decomposition temperature: No information available.

Oxidizing properties

No information available.

Vapour pressure: approx. 97 hPa
(at 20 °C)

Density (at 20 °C): approx. 1 g/cm³ DIN 53217

Water solubility: Reacts with water.
(at 20 °C)



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Solubility in other solvents

Acetone, dichloromethane: Miscible

Partition coefficient:

No information available.

Viscosity / dynamic:
(at 20 °C)

approx. 3 mPa·s DIN 53015

Viscosity / kinematic:

No information available.

Vapour density:

No information available.

Evaporation rate:

No information available.

Solvent content:

< 75 %

9.2. Other information

No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored and applied as directed.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

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

Reactions with strong acids and alkalies.

Reactions with alcohols.

Reactions with amines.

10.4. 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.

10.5. Incompatible materials

alcohols, Amines, Acids and bases.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

LD50/oral/rat: > 2000 mg/kg [OECD 423]

LD50/dermal: No data available.

LC50/inhalation: No data available.

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Skin irritation (rabbit): Mildly irritating. [OECD 404]; Not classified.

Eyes irritation (rabbit): Mildly irritating. [OECD 405]; Not classified.

Sensitising effects

Based on available data, the classification criteria are not met.

Sensitization skin (guinea pig): Negative [OECD 406]

Carcinogenic/mutagenic/toxic effects for reproduction



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Based on available data, the classification criteria are not met.

Mutagenicity: Not classified. [Ames-Test: Negative, OECD 471]; [Micronucleus test: Negative, OECD 487]

STOT-single exposure

May cause drowsiness or dizziness. (Ethyl acetate)

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

Aspiration hazard

Based on available data, the classification criteria are not met.

Practical experience

Other observations

Repeated exposure may cause skin dryness or cracking.

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

Attention. Beware, danger of aspiration!

SECTION 12: Ecological information

12.1. Toxicity

LC50/Brachydanio rerio/96 h = No toxic effects in saturated solution. [OECD 203]

EC50/Daphnia magna/48 h = No toxic effects in saturated solution. [OECD 202]

IC50/Scenedesmus subspicatus/72 h = No toxic effects in saturated solution. [OECD 201]

EC50/Activated sludge > 10000 mg/l [OECD 209]

12.2. Persistence and degradability

Not readily biodegradable.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

12.6. Other adverse effects

Low hazard to waters.

Further information

Do not flush into surface water or sanitary sewer system.

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.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Where possible recycling is preferred to disposal.

Can be incinerated, when in compliance with local regulations.

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.

SECTION 14: Transport information



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Land transport (ADG)

14.1. UN number:	UN 1133
14.2. UN proper shipping name:	Adhesives
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Limited quantity:	5 L

Other applicable information (land transport)

HAZCHEM: •3YE

Marine transport (IMDG)

14.1. UN number:	UN 1133
14.2. UN proper shipping name:	Adhesives
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Special Provisions:	-
Limited quantity:	5 L
Excepted quantity:	E2
EmS:	F-E, S-D

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 1133
14.2. UN proper shipping name:	Adhesives
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3
Special Provisions:	A3
Limited quantity Passenger:	1 L
Passenger LQ:	Y341
Excepted quantity:	E2
IATA-packing instructions - Passenger:	353
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	364
IATA-max. quantity - Cargo:	60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Handle in accordance with good industrial hygiene and safety practice.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

The transport takes place only in approved and appropriate packaging.

SECTION 15: Regulatory information

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

EU regulatory information



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2004/42/EC (VOC): < 75%

National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

Additional information

Poison Schedule: none allocated

All components of this mixture are listed on or exempted from AICS.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes

Changes in chapter: 1 - 3, 8, 14, 15.

Abbreviations and acronyms

ADG = Australian Code for the Transport of Dangerous Goods by Road & Rail

IMDG = International Maritime Code for Dangerous Goods

IATA/ICAO = International Air Transport Association / International Civil Aviation Organization

MARPOL = International Convention for the Prevention of Pollution from Ships

IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk

HAZCHEM = HAZardous CHEMicals

WHS = Work Health and Safety

NOHSC = National Occupational Health and Safety Commission (Australia)

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

REACH = Registration, Evaluation, Authorization and Restriction of Chemicals

CAS = Chemical Abstract Service

EN = European norm

ISO = International Organization for Standardization

DIN = Deutsche Industrie Norm

PBT = Persistent Bioaccumulative and Toxic

vPvB = Very Persistent and very Bio-accumulative

LD = Lethal dose

LC = Lethal concentration

EC = Effect concentration

IC = Median immobilisation concentration or median inhibitory concentration

Relevant H and AUH phrases (number and full text)

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

AUH066 Repeated exposure may cause skin dryness or cracking.

Further Information

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)



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