

## Safety Data Sheet

according to 29 CFR 1910.1200(g)

### TIP TOP HARDENER ER-42

Revision date: 01/15/2026

Product code: 00156-0414

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## 1. Identification

### Product identifier

TIP TOP HARDENER ER-42

### Art.-No.

525 1116, 525 1118, 525 1151, 525 1156, 525 3254

### Recommended use of the chemical and restrictions on use

#### Use of the substance/mixture

Hardener

### Details of the supplier of the safety data sheet

Company name: REMA TIP TOP / North America Inc.  
Street: 1500 Industrial Blvd  
Place: Madison, GA 30650, USA  
Telephone: +1 800 225 7362,  
Internet: www.rematiptop.com  
Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de  
**Emergency phone number:** (USA domestic) 1 800 535 5053 or international (001) 352 323 3500  
Infotrac/GBK GmbH-ID: 93591

## 2. Hazard(s) identification

### Classification of the chemical

#### 29 CFR Part 1910.1200

Flammable liquids: Flam. Liq. 2  
Carcinogenicity: Carc. 2  
Skin corrosion/irritation: Skin Irrit. 2  
Serious eye damage/eye irritation: Eye Irrit. 2A  
Respiratory or skin sensitization: Resp. Sens. 1  
Respiratory or skin sensitization: Skin Sens. 1  
Specific target organ toxicity single exposure: STOT SE 3 (narcotic effects) (respiratory tract irritation)  
Specific target organ toxicity repeated or prolonged exposure: STOT RE 2

### Label elements

#### 29 CFR Part 1910.1200

**Signal word:** Danger**Pictograms:**

### **Hazard statements**

Highly flammable liquid and vapor  
Causes skin irritation  
Causes serious eye irritation  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction  
Suspected of causing cancer  
May cause respiratory irritation  
May cause drowsiness or dizziness  
May cause damage to organs through prolonged or repeated exposure

### **Precautionary statements**

Obtain special instructions before use.

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Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Do not breathe vapour.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
If exposed or concerned: Get medical advice/attention.

**Hazards not otherwise classified**

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.  
Vapours may form explosive mixture with air.

**3. Composition/information on ingredients****Mixtures****Chemical characterization**

Aromatic polyisocyanate

**Hazardous components**

CAS No	Components	Quantity
141-78-6	Ethyl acetate	< 85 %
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues	< 20 %
53317-61-6	Aromatic polyisocyanate	< 10 %
4083-64-1	Tosyl isocyanate	< 0,5 %

**4. First-aid measures****Description of first aid measures****General information**

Remove contaminated soaked clothing immediately.  
If you feel unwell, seek medical advice.  
Take away from danger area and lay down affected person.  
In case of the person being unconscious put him/her in a stable side position.

**After inhalation**

Move to fresh air in case of accidental inhalation of vapours or decomposition products.  
Refer for medical treatment.  
If patient is not breathing, apply artificial respiration.

**After contact with skin**

Wash off with soap and plenty of water.  
Consult a doctor if skin irritation persists.  
Do not use solvents or thinners.

**After contact with eyes**

Remove contact lens.  
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 out mouth and give plenty of water to drink.  
Never give anything by mouth to an unconscious person.  
Summon a doctor immediately.



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Induce vomiting only upon the advice of a physician.

#### **Most important symptoms and effects, both acute and delayed**

Suspected of causing cancer.  
May cause damage to organs through prolonged or repeated exposure.  
Causes serious eye irritation.  
Causes skin irritation.  
May cause respiratory irritation.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
May cause drowsiness or dizziness.

OSHA Hazard Communication: This material is considered hazardous by the OSHA Hazard Communication Standard 29CFR 1910.1200.

#### **Indication of any immediate medical attention and special treatment needed**

Treat symptoms.

## 5. Fire-fighting measures

### **Extinguishing media**

#### **Suitable extinguishing media**

Alcohol-resistant foam, dry chemical, carbon dioxide (CO<sub>2</sub>), water-spray.

#### **Unsuitable extinguishing media**

Full water jet.

### **Specific hazards arising from the chemical**

Fire may produce:  
Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>).  
Hydrogen cyanide (HCN)  
Isocyanates (NCO).

### **Special protective equipment and precautions for fire-fighters**

Wear self-contained breathing apparatus and protective suit.

### **Additional information**

Cool containers at risk with water spray jet.  
The vapour/air mixture is explosive, even in empty, uncleaned receptacles.  
Vapours are heavier than air and spread along ground.  
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

## 6. Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

#### **General advice**

Use only explosion-proof equipment.  
Ensure adequate ventilation.  
Keep away sources of ignition.

#### **For non-emergency personnel**

Do not breathe vapours.  
Avoid contact with skin, eyes and clothing.

#### **For emergency responders**

In case of vapour formation use respirator.  
Use personal protective clothing.

### **Environmental precautions**

Do not discharge into the drains/surface waters/groundwater.  
Inform competent authority about release into the sewerage, ground or into waters.



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#### Methods and material for containment and cleaning up

##### **For containment**

Prevent spread over a wide area (e.g. by containment or oil barriers).

##### **For cleaning up**

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

Shovel into suitable container for disposal.

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

Container should not be gas-tight closed.

#### Reference to other sections

Observe protective instructions (see Sections 7 and 8).

Information for disposal look up chapter 13.

## 7. Handling and storage

#### Precautions for safe handling

##### **Advice on safe handling**

Keep container tightly closed.

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

Vapours are heavier than air and spread along ground.

Avoid contact with the skin and the eyes.

When using do not eat, drink or smoke.

Do not empty container under pressure. No pressure tank!

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

##### **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.

##### **Advice on general occupational hygiene**

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.

Remove and wash contaminated clothing before re-use.

#### 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 protection rules.

Protect from heat and direct solar radiation.

##### **Hints on joint storage**

Incompatible with:

Oxidizing agents

Acids and bases.

Water, amines, alcohols

##### **Further information on storage conditions**

Keep away from food, drink and animal feeding stuffs.

## 8. Exposure controls/personal protection

#### Control parameters

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**Exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	f/cc	Category	Origin
141-78-6	Ethyl acetate	400	1400		TWA (8 h)	PEL
		400	1400		TWA (8 h)	REL
		400	1440		TWA (8 h)	ACGIH-2025

**Exposure controls****Appropriate engineering controls**

Ensure adequate ventilation, especially in confined areas.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Safety goggles with side protection (splash protection) or tightly fitting goggles (EN 166)

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) &gt; 10 minutes.

Protective gloves resistant to chemicals made off butyl, Minimum coat thickness 0,7 mm, Permeation resistance (wear duration) &gt; 60 minutes, i.e. protective glove &lt;Butoject 898&gt; 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).

**9. Physical and chemical properties****Information on basic physical and chemical properties**

Physical state:	Liquid
Color:	Yellowish
Odor:	Characteristic

**Changes in the physical state**

Melting point/freezing point:	n.d.
Boiling point or initial boiling point and boiling range:	77 °C
Sublimation point:	n.a.
Softening point:	n.d.
Pour point:	n.d.
Flash point:	- 4 °C

**Flammability**

Solid/liquid:	n.a.
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**Explosive properties**

The product is considered non-explosive; nevertheless explosive vapour/air mixture can be generated.

Lower explosion limits:	2,1 vol. %
Upper explosion limits:	11,5 vol. %

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Auto-ignition temperature:	n.d.
<b>Self-ignition temperature</b>	
Solid:	n.a.
Gas:	n.a.
Decomposition temperature:	n.d.
pH-Value:	n.d.
Viscosity / dynamic: (at 20 °C)	10 mPa·s
Viscosity / kinematic:	n.d.
Flow time:	n.d.
Water solubility: (at 20 °C)	Immiscible
<b>Solubility in other solvents</b>	
n.d.	
Partition coefficient n-octanol/water:	n.d.
Vapor pressure: (at 20 °C)	97 hPa
Density (at 20 °C):	0,97 g/cm <sup>3</sup>
Bulk density:	n.a.
Relative vapour density:	n.d.

**Other information****Information with regard to physical hazard classes**

Sustained combustibility:	Sustained combustibility
Oxidizing properties	
Not oxidising.	

**Other safety characteristics**

Solvent separation test:	n.d.
Solvent content:	n.d.
Solid content:	26 %
Evaporation rate:	n.d.

**10. Stability and reactivity****Reactivity**

No decomposition if stored and applied as directed.

**Chemical stability**

Stability:	Stable
Stable under normal conditions.	

**Possibility of hazardous reactions**

Hazardous reactions:	Will not occur
Reactions with acids, alkalies and oxidizing agents.	
Reacts with: Water, amines, alcohols	

**Conditions to avoid**

To avoid thermal decomposition, do not overheat.  
Heating can release vapours which can be ignited.  
Vapour/air-mixtures are explosive at intense warming.



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#### Incompatible materials

Strong oxidizing agents  
Strong acids and strong bases  
Water, amines, alcohols

#### Hazardous decomposition products

No hazardous decomposition products known.  
Fire may produce:  
Carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>)  
Hydrogen cyanide gas.  
Isocyanates

## 11. Toxicological information

#### Route(s) of Entry

Skin and eye contact, inhalation and ingestion.

#### Information on toxicological effects

##### **Acute toxicity**

Based on available data, the classification criteria are not met.  
No toxicological data available.

##### **ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

##### **Irritation and corrosivity**

Skin corrosion/irritation: Causes skin irritation  
Serious eye damage/eye irritation: Causes serious eye irritation

##### **Sensitizing effects**

May cause allergy or asthma symptoms or breathing difficulties if inhaled (Diphenylmethanediisocyanate, isomers and homologues; Tosyl isocyanate)  
May cause an allergic skin reaction (Diphenylmethanediisocyanate, isomers and homologues; Aromatic polyisocyanate)

##### **Carcinogenic/mutagenic/toxic effects for reproduction**

Suspected of causing cancer (Diphenylmethanediisocyanate, isomers and homologues)  
Germ cell mutagenicity: Based on available data, the classification criteria are not met.  
Reproductive toxicity: Based on available data, the classification criteria are not met.

##### **Specific target organ toxicity (STOT) - single exposure**

May cause respiratory irritation (Diphenylmethanediisocyanate, isomers and homologues)  
May cause drowsiness or dizziness (Ethyl acetate)

##### **Specific target organ toxicity (STOT) - repeated exposure**

May cause damage to organs through prolonged or repeated exposure (Diphenylmethanediisocyanate, isomers and homologues)

Carcinogenicity (OSHA):	Not listed
Carcinogenicity (IARC):	Not listed
Carcinogenicity (NTP):	Not listed

##### **Aspiration hazard**

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

##### **Additional information on tests**

This product is classified in accordance with the GHS regulations.

#### Information on other hazards

##### **Endocrine disrupting properties**

No data available

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#### Other information

Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Inhalation of high concentrations may cause injuries to liver, kidneys and central nervous system.

A longer or repeated contact may lead to irritation of eyes and mucous membranes.

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

With hypersensitive people, reactions as cough or difficulty of breathing may appear even with tiny concentrations of isocyanates; therefore keep room aerated and ventilated.

## 12. Ecological information

#### Ecotoxicity

Ecological data are not available.

#### Persistence and degradability

No data available

#### Bioaccumulative potential

No data available

#### Mobility in soil

No data available

#### Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### Other adverse effects

Slightly water hazardous.

#### Further information

Do not flush into surface water or sanitary sewer system. In aqueous systems, formation of insoluble and chemically inert (inactive) polyureas.

## 13. Disposal considerations

#### Waste treatment methods

##### Disposal recommendations

Can be incinerated, when in compliance with local regulations.  
Where possible recycling is preferred to disposal.

##### Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.  
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

#### U.S. DOT 49 CFR 172.101

<u>UN number or ID number:</u>	UN 1133
<u>Proper shipping name:</u>	Adhesives
<u>Transport hazard class(es):</u>	3
<u>Packing group:</u>	II
Hazard label:	3



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**Marine transport (IMDG)**

**UN number or ID number:** UN 1133  
**UN proper shipping name:** Adhesives  
**Transport hazard class(es):** 3  
**Packing group:** II  
Hazard label: 3



Marine pollutant: No  
Limited quantity: 5 L / 30 kg  
Excepted quantity: E2  
EmS: F-E, S-D

**Air transport (ICAO-TI/IATA-DGR)**

**UN number or ID number:** UN 1133  
**UN proper shipping name:** ADHESIVES  
**Transport hazard class(es):** 3  
**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

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**Special precautions for user**

Handle in accordance with good industrial hygiene and safety practices.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

The transport takes place only in approved and appropriate packaging.

**15. Regulatory information****U.S. Regulations****National Inventory TSCA**

All of the components are listed on the TSCA inventory.

**National regulatory information**

SARA Section 304 CERCLA:

Ethyl acetate (141-78-6): Reportable quantity = 5,000 (2270) lbs. (kg)

SARA Section 311/312 Hazards:

Ethyl acetate (141-78-6): Fire hazard, Immediate (acute) health hazard

Polymeric diphenylmethane diisocyanate (9016-87-9): Delayed (chronic) health hazard, Immediate (acute) health hazard

Aromatic polyisocyanate (53317-61-6): Immediate (acute) health hazard

Tosyl isocyanate (4083-64-1): Immediate (acute) health hazard

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SARA Section 313 Toxic release inventory:

Polymeric diphenylmethane diisocyanate (9016-87-9): De minimis limit = 1.0 %, Reportable threshold = Standard

**SARA**

This product contains toxic chemical(s) subject to the reporting requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 372. Any such toxic chemical(s) are shown below.

Diphenylmethanediisocyanate, isomers and homologues (max. 24%)

**State Regulations****Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)**

WARNING: This product can expose you to chemicals including Toluene diisocyanate (cancer), which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**16. Other information****Hazardous Materials Identification System (HMIS)**

Health: \*2  
Flammability: 0  
Physical Hazard: 0

**NFPA Hazard Ratings**

Health: 2  
Flammability: 2  
Reactivity: 0  
Unique Hazard:

**Changes**

Revision date: 15.01.2026  
Revision No: 1,8

This data sheet contains changes from the previous version in section(s): 9,12.

**Abbreviations and acronyms**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
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

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

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LD = Lethal dose

LC = Lethal concentration

EC = Effect concentration

IC = Median immobilisation concentration or median inhibitory concentration

**Other data**

The information in this document is based on the present state of knowledge and is applicable to the product with regard to appropriate safety precautions.

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 relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*