

Safety Data Sheet

according to UK REACH Regulation

TIP TOP HARDENER UT-R20

Revision: 30.09.2025

Product code: 00156-0028

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

1.1. Product identifier

TIP TOP HARDENER UT-R20

Art.-No.

525 1005, 525 1036, 525 1043, 525 1046, 525 1047, 525 1048

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

Manufacturer

Company name: REMA TIP TOP AG
Street: Gruber Strasse 65
Place: D-85586 Poing
Telephone: +49 (0) 8121 / 707 - 100
Responsible Department: Responsible for the safety data sheet: sds@gbk-ingelheim.de

Supplier

Company name: REMA TIP TOP INDUSTRY UK LTD
Street: Plumtree Industrial Estate, Harworth
Place: Doncaster, DN11 8EW, South Yorkshire
Telephone: +44 (0)1302 711233
Internet: www.rema-tiptop.co.uk

1.4. Emergency telephone number:

INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)
In England and Wales: NHS 111 In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Carc. 2; H351
Skin Irrit. 2; H315
Eye Irrit. 2; H319
Resp. Sens. 1; H334
Skin Sens. 1; H317
STOT SE 3; H335 H336
STOT RE 2; H373

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

Dichloromethane
Diphenylmethanediisocyanate, isomers and homologues
Dimethylbis[(1-oxoneodecyl)oxy]stannane

Signal word: Danger

Pictograms:



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Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe vapour.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.

Special labelling of certain mixtures

EUH204	Contains isocyanates. May produce an allergic reaction. As from 24 August 2023 adequate training is required before industrial or professional use. Restricted to professional users.
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2.3. Other hazards

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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Preparation with isocyanates and dichloromethane

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
75-09-2	Dichloromethane			60 - < 85 %
	200-838-9	602-004-00-3	01-2119480404-41	
	Carc. 2, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H351 H315 H319 H336			
9016-87-9	Diphenylmethanediisocyanate, isomers and homologues			20 - < 30 %
			01-2119457024-46	
	Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373			
68928-76-7	Dimethylbis[(1-oxodecyl)oxy]stannane			< 0,1 %
	273-028-6		01-2120770324-57	
	Acute Tox. 4, Skin Irrit. 2, Skin Sens. 1A, Aquatic Chronic 3; H302 H315 H317 H412			

Full text of H and EUH statements: see section 16.

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Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
9016-87-9		Diphenylmethanediisocyanate, isomers and homologues	20 - < 30 %
		inhalation: ATE = 11 mg/l (vapours); inhalation: ATE = 1,5 mg/l (dusts or mists); dermal: LD50 = > 9400 mg/kg; oral: LD50 = > 10000 mg/kg mg/kg	
68928-76-7	273-028-6	Dimethylbis[(1-oxodecyl)oxy]stannane	< 0,1 %
		oral: ATE = 500 mg/kg	

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.
Refer for medical treatment.

After contact with skin

Wash off immediately with soap and plenty of water.
Consult a physician.

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.
Summon a doctor immediately.
Induce vomiting only upon the advice of a physician.
Attention. Beware, danger of aspiration.

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

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

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:

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Chlorine and traces of phosgene.
Hydrogen chloride gas.
carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x)
Hydrogen cyanide (HCN)

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

Additional information

Cool containers at risk with water spray jet.
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

General advice

Vapours are heavier than air and spread along ground.
Ensure adequate ventilation.
Remove persons to safety.

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.

6.2. Environmental precautions

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

6.3. 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 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).
Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Keep container tightly closed.
Vapours are heavier than air and spread along ground.
Do not breathe vapours.
Local exhaust.
Use only in thoroughly ventilated areas.

Advice on protection against fire and explosion

Keep away from heat and sources of ignition.

Advice on general occupational hygiene

Do not inhale vapours.
Avoid contact with eyes and skin.

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Wash hands before breaks and immediately after handling the product.

When using do not eat, drink or smoke.

Take off immediately all contaminated clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep containers tightly closed in a cool, well-ventilated place.

Avoid temperatures above 40°C.

Hints on joint storage

Exothermic reaction with:

Alcohol, Amines, Alkaline metals., Acids and bases.

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

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

7.3. Specific end use(s)

Hardener

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
75-09-2	Dichloromethane	100	353		TWA (8 h)	WEL
		200	706		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
75-09-2	Dichloromethane	carbon monoxide	30 ppm	end-tidal breath	Post shift

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly fitting goggles (EN 166).

Eye wash bottle with pure water (EN 15154).

Hand protection

Splash protection:

Protective gloves resistant to chemicals made off viton, minimum coat thickness 0.7 mm, permeation resistance (wear duration) approx. 120 minutes, i.e. protective glove <Vitoject 890> 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 (DIN EN ISO 6530)

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment (gas filter type AX) (EN 14387).

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SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state: Liquid
Colour: Amber
Odour: Characteristic

Changes in the physical state

Melting point/freezing point: n.d.
Boiling point or initial boiling point and boiling range: n.d.
Sublimation point: n.d.
Softening point: n.d.
Pour point: n.d.
Flash point: > 61 °C

Flammability

Solid/liquid: n.a.

Explosive properties

The product is not explosive.

Lower explosion limits: n.d.
Upper explosion limits: n.d.
Auto-ignition temperature: n.d.

Self-ignition temperature

Solid: n.a.
Gas: n.a.

Decomposition temperature: > 120 °C

pH-Value: n.d.

Viscosity / dynamic: n.d.

Viscosity / kinematic: n.d.

Flow time: n.d.

Water solubility: Reacts with water.

Solubility in other solvents

n.d.

Partition coefficient n-octanol/water: n.d.

Vapour pressure: 453 hPa
(at 20 °C)

Relative density (at 20 °C): 0,61

Bulk density: n.a.

Relative vapour density: n.d.

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

Oxidizing properties
Not fire-promoting.

Other safety characteristics

Solvent separation test: n.d.

Solvent content: n.d.



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Solid content: 28 %
Evaporation rate: n.d.

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored normally.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactions with strong acids and alkalis.
Reactions with alkali metals.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.
Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

10.5. Incompatible materials

Water, Alkaline metals., Amines, alcohols, Strong acids and strong bases

10.6. Hazardous decomposition products

No hazardous decomposition products known.
Fire may produce:
Hydrogen cyanide gas
Chlorine and traces of phosgene.
Hydrogen chloride gas
Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x)

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

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.

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Diphenylmethanediisocyanate, isomers and homologues)
May cause an allergic skin reaction. (Diphenylmethanediisocyanate, isomers and homologues;
Dimethylbis[(1-oxoneodecyl)oxy]stannane)
Contains isocyanates. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (Dichloromethane; 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.

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STOT-single exposure

May cause respiratory irritation. (Diphenylmethanediisocyanate, isomers and homologues)
May cause drowsiness or dizziness. (Dichloromethane)

STOT-repeated exposure

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

Aspiration hazard

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

Additional information on tests

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information

Inhalation of high vapour concentration may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Hazard of lung oedema.
With hypersensitive people, reactions as cough or difficulty of breathing may appear even with tiny concentrations of isocyanates; therefore keep room aerated and ventilated.

SECTION 12: Ecological information

12.1. Toxicity

Ecological data are not available.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. 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.

12.7. Other adverse effects

Hazardous water pollutant.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

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

List of Wastes Code - residues/unused products

080501 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes not otherwise specified in 08; waste isocyanates; hazardous waste

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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.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 1593
14.2. UN proper shipping name:	DICHLOROMETHANE, Solution
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	III
Hazard label:	6.1



Classification code:	T1
Limited quantity:	5 L / 30 kg
Excepted quantity:	E1
Transport category:	2
Hazard No:	60
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1593
14.2. UN proper shipping name:	DICHLOROMETHANE, Solution
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	III
Hazard label:	6.1



Classification code:	T1
Limited quantity:	5 L / 30 kg
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1593
14.2. UN proper shipping name:	DICHLOROMETHANE, SOLUTION
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	III
Hazard label:	6.1



Marine pollutant:	No
Limited quantity:	5 L / 30 kg
Excepted quantity:	E1
EmS:	F-A, S-A

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1593
14.2. UN proper shipping name:	DICHLOROMETHANE, SOLUTION

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14.3. Transport hazard class(es):

6.1

14.4. Packing group:

III

Hazard label:

6.1



Limited quantity Passenger:

2 L

Passenger LQ:

Y642

Excepted quantity:

E1

IATA-packing instructions - Passenger:

655

IATA-max. quantity - Passenger:

60 L

IATA-packing instructions - Cargo:

663

IATA-max. quantity - Cargo:

220 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Handle in accordance with good industrial hygiene and safety practices.

14.7. Maritime transport in bulk according to IMO instruments

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**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 59, Entry 74, Entry 75

Directive 2010/75/EU on industrial emissions: 72 %; 441,34 g/l

Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information

Contains substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer): Dichloromethane (DCM) (75-09-2); Annex II (OZONE-DEPLETING SUBSTANCES REFERRED TO IN ARTICLE 2, POINT (A), NOT CONTROLLED UNDER THE PROTOCOL)

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2,9,12,15.

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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

LD = Lethal dose
LC = Lethal concentration
EC = Effect concentration
IC = Median immobilisation concentration or median inhibitory concentration

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Carc. 2; H351	Calculation method
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Resp. Sens. 1; H334	Calculation method
Skin Sens. 1; H317	Calculation method
STOT SE 3; H335	Calculation method
STOT SE 3; H336	Calculation method
STOT RE 2; H373	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
EUH204	Contains isocyanates. May produce an allergic reaction.

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

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