

Safety Data Sheet

according to Regulation (EC) No 1907/2006

TIP TOP HARDENER UT-R20

Revision date: 17.01.2022

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

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

1.4. Emergency telephone number:

INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)
Public Poisons Information Line: +353 (0) 1 809 2166 (8am-10pm 7 days a week)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

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

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

Dichloromethane

Diphenylmethanediisocyanate, isomeres and homologues

Signal word: Danger

Pictograms:



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.

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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.

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 | |
| | GHS Classification | | | |
| 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, isomeres 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 | | | |

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

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, isomeres and homologues | 20 - < 30 % |
| | | inhalation: ATE = 11 mg/l (vapours); dermal: LD50 = > 9400 mg/kg; oral: LD50 = > 10000 mg/kg | |

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.

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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:
Chlorine and traces of phosgene.
Hydrogen chloric 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



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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/groundwater.
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.
No not container for disposal.
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).
Informations for disposal look up chapter 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.

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



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8.1. Control parameters

Occupational exposure limits

| CAS No | Substance | ppm | mg/m ³ | fib/cm ³ | Category | Origin |
|---------|--------------------|-----|-------------------|---------------------|---------------|--------|
| 75-09-2 | Methylene chloride | 100 | 353 | | TWA (8 h) | |
| | | 200 | 706 | | STEL (15 min) | |

Biological limit values

| CAS No | Substance | Parameter | Value | Test material | Sampling time |
|---------|------------------------------------|-----------|-------|---------------|-------------------------|
| 75-09-2 | Dichloromethane/Methylene chloride | COHb | 4 % | Haemoglobin | Measure at end of shift |

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures

Do not inhale vapours.

Avoid contact with eyes and skin.

Wash hands before breaks and immediately after handling the product.

When using do not eat, drink or smoke.

Take off immediately all contaminated clothing.

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).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-----------------|----------------|
| Physical state: | Liquid |
| Colour: | Amber |
| Odour: | Characteristic |
| pH-Value: | n.d. |

Changes in the physical state

| | |
|---|------|
| Melting point/freezing point: | n.d. |
| Boiling point or initial boiling point and boiling range: | n.d. |



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| | |
|--------------------|---------|
| Sublimation point: | n.d. |
| Softening point: | n.d. |
| Pour point: | n.d. |
| Flash point: | > 61 °C |

Flammability

| | |
|---------------|------|
| Solid/liquid: | n.a. |
| Gas: | 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 |
|----------------------------|----------|

Oxidizing properties

Non oxidizing.

| | |
|--------------------------------|----------|
| Vapour pressure: (at 20 °C) | 4,53 hPa |
|--------------------------------|----------|

| | |
|---------------------|------------------------|
| Density (at 20 °C): | 1,26 g/cm ³ |
|---------------------|------------------------|

| | |
|---------------|------|
| Bulk density: | n.a. |
|---------------|------|

| | |
|-------------------|-------------------|
| Water solubility: | Reacts with water |
|-------------------|-------------------|

Solubility in other solvents

n.d.

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

| | |
|----------------------|------|
| Viscosity / dynamic: | n.d. |
|----------------------|------|

| | |
|------------------------|------|
| Viscosity / kinematic: | n.d. |
|------------------------|------|

| | |
|------------|------|
| Flow time: | n.d. |
|------------|------|

| | |
|--------------------------|------|
| Relative vapour density: | n.d. |
|--------------------------|------|

| | |
|-------------------|------|
| Evaporation rate: | n.d. |
|-------------------|------|

| | |
|--------------------------|------|
| Solvent separation test: | n.d. |
|--------------------------|------|

| | |
|------------------|------|
| Solvent content: | n.d. |
|------------------|------|

9.2. Other 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.



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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 Regulation (EC) No 1272/2008

Acute toxicity

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

No toxicological data available.

Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

Contains isocyanates. May produce an allergic reaction. 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)

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.

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

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12.1. Toxicity

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

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.

No data available

12.7. Other adverse effects

Hazard to waters.

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

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)

| | |
|---|---------------------------|
| <u>14.1. UN number:</u> | UN 1593 |
| <u>14.2. UN proper shipping name:</u> | DICHLOROMETHANE, Solution |
| <u>14.3. Transport hazard class(es):</u> | 6.1 |
| <u>14.4. Packing group:</u> | III |
| Hazard label: | 6.1 |



| | |
|----------------------|-------------|
| Classification code: | T1 |
| Limited quantity: | 5 L / 30 kg |

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Excepted quantity: E1
Transport category: 2
Hazard No: 60
Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN 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: 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: 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



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

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14.6. Special precautions for user

Handle in accordance with good industrial hygiene and safety practice.

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

2004/42/EC (VOC): 932,49 g/l
73 %;

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

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): 2,6,7,11,12,15.

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

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Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

| Classification | Classification procedure |
|---------------------|--------------------------|
| Skin Irrit. 2; H315 | Calculation method |
| Eye Irrit. 2; H319 | Calculation method |
| Resp. Sens. 1; H334 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| Carc. 2; H351 | 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)

| | |
|--------|--|
| 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. |
| 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 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.'