

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

1.1. Product identifier

TIP TOP SOLUTION HR

Art.-No.

515 9224, 515 9231

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

Use of the substance/mixture

adhesive

1.3. Details of the supplier of the safety data sheet

Company name: REMA TIP TOP AG
Street: Gruber Strasse 63
Place: D-85586 Poing
Telephone: +49 (0) 8121 / 707 - 0
Verantwortlich für das Sicherheitsdatenblatt: sds@gbk-ingelheim.de

1.4. Emergency telephone

INTERNATIONAL: +49 - (0) 6132 - 84463, GBK GmbH (24h - 7d/w - 365d/a)
number: England and Wales: NHS Direct - 0845 4647; Scotland: NHS 24 - 08454 24 24
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: F - Highly flammable, Xi - Irritant, N - Dangerous for the environment

R phrases:

Highly flammable.

Irritating to eyes and skin.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Vapours may cause drowsiness and dizziness.

GHS classification

Hazard categories:

Flammable liquid: Flam. Liq. 2

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Highly flammable liquid and vapour.

Causes serious eye irritation.

Causes skin irritation.

May cause drowsiness or dizziness.

Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazardous components which must be listed on the label

Ethyl acetate

Cyclohexane

Isohexane

n-Heptane

Signal word: Danger

Pictograms: GHS02-GHS07-GHS09





Hazard statements

- | | |
|------|--|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

- | | |
|----------------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P261 | Avoid breathing vapour. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312 | Call a POISON CENTER/doctor if you feel unwell. |
| P273 | Avoid release to the environment. |

2.3. Other hazards

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Preparation in organic solvents

Hazardous components

| EC No | Chemical name | Quantity |
|------------------|--|----------|
| CAS No | Classification | |
| Index No | GHS classification | |
| REACH No | | |
| 205-500-4 | Ethyl acetate | < 65 % |
| 141-78-6 | F - Highly flammable, Xi - Irritant R11-36-66-67 | |
| 607-022-00-5 | Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 | |
| 01-2119475103-46 | | |
| 203-806-2 | Cyclohexane | < 25 % |
| 110-82-7 | F - Highly flammable, Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R11-65-38-67-50-53 | |
| 601-017-00-1 | Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H225 H315 H336 H304 H400 H410 | |
| 01-2119463273-41 | | |
| 203-523-4 | Isohexane | < 10 % |
| 107-83-5 | F - Highly flammable, Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R11-38-51-53-65-67 | |
| | Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H315 H336 H304 H411 | |
| 205-563-8 | n-Heptane | < 10 % |
| 142-82-5 | F - Highly flammable, Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R11-65-38-67-50-53 | |
| 601-008-00-2 | Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Acute 1, Aquatic Chronic 1; H225 H315 H336 H304 H400 H410 | |
| 01-2119457603-38 | | |
| 203-777-6 | n-Hexane | < 2,5 % |
| 110-54-3 | Repr. Cat. 3, F - Highly flammable, Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R11-62-48/20-65-38-67-51-53 | |
| 601-037-00-0 | Flam. Liq. 2, Repr. 2, Skin Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1, Aquatic Chronic 2; H225 H361f H315 H336 H373 H304 H411 | |
| 01-2119480412-44 | | |
| 215-222-5 | Zinc oxide | < 1 % |
| 1314-13-2 | N - Dangerous for the environment R50-53 | |
| 030-013-00-7 | Aquatic Acute 1, Aquatic Chronic 1; H400 H410 | |
| 01-2119463881-32 | | |
| 226-733-8 | N-Cyclohexyl-N-ethylamine | < 1 % |
| 5459-93-8 | C - Corrosive, Xn - Harmful R10-20/21/22-34-52-53 | |
| | Flam. Liq. 3, Acute Tox. 3, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Aquatic Chronic 3; H226 H311 H331 H302 H314 H412 | |
| 01-2119949285-29 | | |

Full text of R and H phrases: see Section 16.

SECTION 4: First aid measures**4.1. 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.

After inhalation

Move to fresh air in case of accidental inhalation of vapours or decomposition products.

Refer for medical treatment.

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.

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.
Summon a doctor immediately.
Induce vomiting only upon the advice of a physician.

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

Causes serious eye irritation.
Causes skin irritation.
May cause drowsiness or dizziness.
Attention. Beware, danger of aspiration.

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:
Carbon monoxide and carbon dioxide

5.3. Advice for firefighters

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.
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.
Use only explosion-proof equipment.
Ensure adequate ventilation.
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.

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.
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:
Oxidizing agents
Nitrous acid and other nitrosating agents.

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

adhesive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|----------|---------------|-----|-------------------|-----------|---------------|--------|
| 110-82-7 | Cyclohexane | 100 | 350 | | TWA (8 h) | WEL |
| | | 300 | 1050 | | STEL (15 min) | WEL |
| 141-78-6 | Ethyl acetate | 200 | - | | TWA (8 h) | WEL |
| | | 400 | - | | STEL (15 min) | WEL |
| 142-82-5 | n-Heptane | 500 | 2085 | | TWA (8 h) | WEL |
| | | - | - | | STEL (15 min) | WEL |
| 110-54-3 | n-Hexane | 20 | 72 | | TWA (8 h) | WEL |
| | | - | - | | 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.
Remove and wash contaminated clothes before re-use.

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 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.

Skin protection

Long sleeved clothing (EN 368).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment (gas filter type A) (EN 141).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--|---------------------------|
| Physical state: | Liquid |
| Colour: | Black |
| Odour: | Ester-like |
| Initial boiling point and boiling range: | approx. 76 °C |
| Flash point: | -18 °C |
| Lower explosion limits: | 0,6 vol. % |
| Upper explosion limits: | |
| Density (at 20 °C): | 0,88 g/cm ³ |
| Water solubility: (at 20 °C) | Immiscible |
| Ignition temperature: | 460 °C |
| Viscosity / dynamic: | > 6000 mPa·s |
| Viscosity / kinematic: (at 40 °C) | > 20,5 mm ² /s |
| Solvent content: | < 90 % |

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

Reactions with oxidizing agents.

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

oxidizing agents
Nitrous acid and other nitrosating agents.

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.
An inappropriate handling, for instance major amounts of product combined with strong heat and nitrosating agents, renders possible a cleavage of nitrosamines in traces.

SECTION 11: Toxicological information

11.1. Information on toxicological effects



Acute toxicity

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

No toxicological data available.

Ethyl acetate

LD50/oral/rat: 4935 mg/kg

LC50/inhalation/rat: 1600 mg/l

Cyclohexane

LD50/oral/rat: 12705 mg/kg

Irritation and corrosivity

Causes serious eye irritation.

Causes skin irritation.

Sensitising effects

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

STOT-single exposure

May cause drowsiness or dizziness. (Ethyl acetate), (Cyclohexane), (Isohexane), (n-Heptane), (n-Hexane)

Severe effects after repeated or prolonged exposure

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

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.

Practical experience

Other observations

May cause irritation of the mucous membranes.

Effects of breathing high concentrations of vapour may include: Headache, dizziness, weakness, unconsciousness.

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

Further information

An inappropriate handling, for instance major amounts of product combined with strong heat and nitrosating agents, renders possible a cleavage of nitrosamines in traces.

SECTION 12: Ecological information

12.1. Toxicity

Ecological data are not available.

Toxic to aquatic life with long lasting effects.

Cyclohexane

EC50/Daphnia magna/48 h = 0,9 mg/l

IC50 Selenastrum capricornutum/72 h > 4 mg/l

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

No data available.

12.6. Other adverse effects

Low hazard to waters.

Further information

Do not flush into surface water or sanitary sewer system.

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.

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

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: UN1133
14.2. UN proper shipping name: Adhesives
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Classification code: F1
Limited quantity: 5 L / 30 kg
Transport category: 2
Hazard No: 33
Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number: UN1133
14.2. UN proper shipping name: Adhesives
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Classification code: F1
Limited quantity: 5 L / 30 kg

Marine transport (IMDG)

14.1. UN number: UN1133
14.2. UN proper shipping name: Adhesives (n-Heptane)
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Marine pollutant: Yes
Limited quantity: 5 L / 30 kg
EmS: F-E, S-D

Air transport (ICAO)

14.1. UN number: UN1133
14.2. UN proper shipping name: Adhesives
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3



Limited quantity Passenger: Y341 / 1 L
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: yes



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 MARPOL73/78 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

1999/13/EC (VOC): < 90 %

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

15.2. Chemical safety assessment

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

SECTION 16: Other information

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

LD = Lethal dose

LC = Lethal concentration

EC = Effect concentration

IC = Median immobilisation concentration or median inhibitory concentration

Full text of R phrases referred to under Sections 2 and 3

| | |
|----------|---|
| 10 | Flammable. |
| 11 | Highly flammable. |
| 20/21/22 | Harmful by inhalation, in contact with skin and if swallowed. |
| 34 | Causes burns. |
| 36 | Irritating to eyes. |
| 36/38 | Irritating to eyes and skin. |
| 38 | Irritating to skin. |
| 48/20 | Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| 50 | Very toxic to aquatic organisms. |
| 51 | Toxic to aquatic organisms. |
| 51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| 52 | Harmful to aquatic organisms. |
| 53 | May cause long-term adverse effects in the aquatic environment. |
| 62 | Possible risk of impaired fertility. |
| 65 | Harmful: may cause lung damage if swallowed. |
| 66 | Repeated exposure may cause skin dryness or cracking. |
| 67 | Vapours may cause drowsiness and dizziness. |

Full text of H statements referred to under Sections 2 and 3

| | |
|-------|--|
| H225 | Highly flammable liquid and vapour. |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H336 | May cause drowsiness or dizziness. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

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)

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

REMA TIP TOP AG

Revision date: 27.05.2014

Revision No: 2,0

TIP TOP SOLUTION HR

00156-0118



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