

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

### 1.1. Product identifier

TIP TOP SOLUTION T2-B4

#### Art.-No.

517 9015

### 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

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)  
England and Wales: NHS Direct - 0845 4647; Scotland: NHS 24 - 08454 24 24  
24

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture according to 1272/2008/EC

Hazard categories:

Flammable liquid: Flam. Liq. 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.

May cause drowsiness or dizziness.

Toxic to aquatic life with long lasting effects.

### 2.2. Label elements

#### Hazard components for labelling

Ethyl acetate

Hydrocarbons, C6-C7, n-alkanes, iso-alkanes, cyclic compounds, < 3% n-hexane

Signal word:

Danger

Pictograms:



#### Hazard statements

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye 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.  
P260 Do not breathe 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.

**TIP TOP SOLUTION T2-B4**

Revision date: 30.03.2016

Revision No: 2,1

Product code: 00156-0114



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.

**Special labelling of certain mixtures**

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH208 Contains Zinc bis(dibutyldithiocarbamate). May produce an allergic reaction.

**2.3. Other hazards**

Vapours may form explosive mixture with air.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

Preparation with ethyl acetate

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
141-78-6	Ethyl acetate			< 50 %
	205-500-4	607-022-00-5	01-2119475103-46	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
92062-15-2	Hydrocarbons, C6-C7, n-alkanes, iso-alkanes, cyclic compounds, < 3% n-hexane [Solvent naphtha (petroleum)]			< 25 %
	926-605-8		01-2119486291-36	
	Flam. Liq. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H336 H304 H411			
1314-13-2	Zinc oxide			< 2,5 %
	215-222-5	030-013-00-7	01-2119463881-32	
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			
14634-93-6	Zinc-bis (N-ethyl-N-phenyldithiocarbamate)			< 1 %
	238-677-1			
	Eye Irrit. 2, Aquatic Chronic 4; H319 H413			
5459-93-8	N-Cyclohexyl-N-ethylamine			< 1 %
	226-733-8		01-2119949285-29	
	Flam. Liq. 3, Acute Tox. 3, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Aquatic Chronic 3; H226 H311 H331 H302 H314 H412			
136-23-2	Zinc bis(dibutyldithiocarbamate)			< 0,5 %
	205-232-8	006-081-00-9	01-2119535161-51	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 1; H315 H319 H317 H335 H400 H410			

Full text of H and EUH statements: 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.

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.  
May cause drowsiness or dizziness.  
Repeated exposure may cause skin dryness or cracking.  
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 (CO<sub>2</sub>), 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, carbon dioxide, sulphur oxides and nitrogen oxides (NO<sub>x</sub>).

**5.3. Advice for firefighters**

Use breathing apparatus with independent air supply.  
Protective suit.

**Additional information**

Vapours are heavier than air and spread along ground.  
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 <sup>3</sup>	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**

Wash hands before breaks and immediately after handling the product.  
 When using do not eat, drink or smoke.  
 Treat subsequently with skin cream.  
 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.

Protective gloves resistant to chemicals made off nitrile, minimum coat thickness 0.4 mm, permeation resistance (wear duration) approx. 30 minutes, i.e. protective glove <Camatril Velours 730> 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 14387).



---

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

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

### **Changes in the physical state**

Melting point:	< - 20 °C
Initial boiling point and boiling range:	> 76 °C
Flash point:	- 18 °C
Lower explosion limits:	2,1 vol. %
Upper explosion limits:	11,5 vol. %
Ignition temperature:	460 °C
Density (at 20 °C):	0,9 g/cm <sup>3</sup>
Water solubility: (at 20 °C)	Immiscible
Viscosity / kinematic: (at 40 °C)	> 20,5 mm <sup>2</sup> /s
Flow time: (at 23 °C)	> 30 s
Solvent content:	< 80 %

3 DIN/ISO 2431

### 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

Nitrous acid and other nitrosating agents.  
oxidizing agents

### 10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide, sulphur oxides, and nitrogen oxides (NO<sub>x</sub>).  
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.

#### **Irritation and corrosivity**

Causes serious eye irritation.  
Skin corrosion/irritation: Based on available data, the classification criteria are not met.



### **Sensitising effects**

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

### **STOT-single exposure**

May cause drowsiness or dizziness. (Ethyl acetate), (Hydrocarbons, C6-C7, n-alkanes, iso-alkanes, cyclic compounds, < 3% n-hexane [Solvent naphtha (petroleum)])

### **Severe effects after repeated or prolonged exposure**

Repeated exposure may cause skin dryness or cracking.

### **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**

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.

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.

Hydrocarbons, C6-C7, n-alkanes, iso-alkanes, cyclic compounds, < 3% n-hexane

LC50/EC50/EC50 : 1 - 10 mg/l

Zinc oxide

EC50/Ceriodaphnia dubia/48 h = 0,01 - 0,1 mg/l

EC50/Selenastrum capricornutum/72 h = 0,01 - 0,1 mg/l

N-Cyclohexyl-N-ethylamine

EC50/Daphnia magna/48 h = 10 - 100 mg/l

ErC50/Desmodesmus subspicatus/72 h = 10 - 100 mg/l

Zinc bis(dibutyldithiocarbamate)

LC50/Oncorhynchus mykiss/96 h = 520 mg/l

LC50/Lepomis macrochirus/96 h = 880 mg/l

EC50/Daphnia magna/48 h = 0,74 mg/l

Ethyl acetate

LC50/EC50/EC50 : > 100 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**

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**

Hazardous water pollutant.

### **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 hazardous 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:** UN 1133  
**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  
 Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 33  
 Tunnel restriction code: D/E

**Inland waterways transport (ADN)**

**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



Classification code: F1  
 Limited quantity: 5 L / 30 kg  
 Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number:** UN 1133  
**14.2. UN proper shipping name:** Adhesives (Solvent naphtha (petroleum))  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** II



Hazard label: 3



Marine pollutant: Yes  
 Limited quantity: 5 L / 30 kg  
 Excepted quantity: E2  
 EmS: F-E, S-D

**Air transport (ICAO)**

**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 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: 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 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**

2004/42/EC (VOC): < 80 %

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juvenils 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 contaminating class (D): 2 - water contaminating

**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

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 EUH statements (number and full text)

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.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

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.

H413 May cause long lasting harmful effects to aquatic life.

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH208 Contains Zinc bis(dibutyldithiocarbamate). 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.)*