



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

### 1.1. Product identifier

TIP TOP SOLUTION HL-WK2

#### Art.-No.

527 0544, 527 0545, 527 0575

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

#### Use of the substance/mixture

Assembling solution

### 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

**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

Indications of danger: T - Toxic

R phrases:

Irritating to eyes and skin.

May cause cancer.

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

Vapours may cause drowsiness and dizziness.

Possible risks of irreversible effects.

#### GHS classification

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory/skin sensitization: Skin Sens. 1

Germ cell mutagenicity: Muta. 2

Carcinogenicity: Carc. 1B

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.

Suspected of causing genetic defects.

May cause cancer.

Harmful to aquatic life with long lasting effects.

### 2.2. Label elements

#### Hazardous components which must be listed on the label

Trichloroethylene

Signal word: Danger

Pictograms: GHS07-GHS08



**Hazard statements**

- H319 Causes serious eye irritation.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H336 May cause drowsiness or dizziness.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing 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.
- P273 Avoid release to the environment.

**Special labelling of certain mixtures**

Restricted to professional users.

**2.3. Other hazards**

Not known.

**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

**Chemical characterization**

Preparation with trichloroethylene

**Hazardous components**

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
201-167-4	Trichloroethylene	< 90 %
79-01-6	Carc. Cat. 2, Muta. Cat. 3, Xi - Irritant R45-68-67-36/38-52-53	
602-027-00-9	Carc. 1B, Muta. 2, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3, Aquatic Chronic 3; H350 H341 H315 H319 H317 H336 H412	
01-2119490731-36		
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	Cyclohexyl(ethyl)amine	< 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.

**Further Information**

SVHC substance [Regulation (EC) No 1907/2006, Article 57]: Trichloroethylene

**SECTION 4: First aid measures**



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#### **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.  
In the event of symptoms refer for medical treatment.

##### **After contact with skin**

Wash off immediately 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**

Induce vomiting only upon the advice of a physician.  
Attention. Beware, danger of aspiration.  
Summon a doctor immediately.  
Immediately give plenty of water, if possible charcoal slurry.

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

May cause cancer.  
May cause drowsiness or dizziness.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
Causes skin irritation.  
Suspected of causing genetic defects.

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

Treat symptoms.

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### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Foam, carbon dioxide (CO<sub>2</sub>), dry chemical, water-spray.  
Product does not burn, fire-extinguishing activities according to surrounding.

##### **Unsuitable extinguishing media**

Full water jet.

#### **5.2. Special hazards arising from the substance or mixture**

Fire may produce:  
Carbon monoxide and carbon dioxide  
Chlorine and traces of phosgene.  
Hydrogen chloride gas.

#### **5.3. Advice for firefighters**

Wear self-contained breathing apparatus and protective suit.

##### **Additional information**

Keep away from heat and sources of ignition.  
Cool containers at risk with water spray jet.  
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

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### **SECTION 6: Accidental release measures**

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

In case of vapour formation use respirator.  
Ensure adequate ventilation.  
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**

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.

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**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.  
Care for thoroughly room ventilation, if necessary suck off at workplace.  
Avoid contact with skin, eyes and clothing.

**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.

**Advice on storage compatibility**

Incompatible with:  
Oxidizing agents  
Aluminium powder  
Alkaline metals and earth alkaline metals.  
Alkaline leaches

**Further information on storage conditions**

Keep away from food, drink and animal feeding stuffs.

**7.3. Specific end use(s)**

Assembling solution

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**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
79-01-6	Trichloroethylene	100	550		TWA (8 h)	WEL
		150	820		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.  
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**

Eye wash bottle with pure water (EN 15154).  
Tightly fitting goggles (EN 166).

**Hand protection**

Protective gloves resistant to chemicals made off viton , minimum coat thickness 0,7 mm, permeation resistance (wear duration) approx. 480 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 (EN 368).

**Respiratory protection**

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

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**SECTION 9: Physical and chemical properties**

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

Physical state:	Liquid
Colour:	Black
Odour:	Sweetish
Initial boiling point and boiling range:	approx. 90 °C
Flash point:	n.a. *)
Lower explosion limits:	7,9 vol. %
Upper explosion limits:	
Vapour pressure: (at 20 °C)	77 hPa
Vapour density:	4,54
Density:	1,45 g/cm <sup>3</sup>
Water solubility: (at 20 °C)	Immiscible
Ignition temperature:	410 °C
Viscosity / dynamic:	1500 mPa·s
Solvent content:	< 90 %

**9.2. Other information**

"\*) According to PTB instructions, trichloroethylene has no flashpoint; however, vapour and air mixtures are flammable under a stronger energy influx."

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**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 alkali metals.

Reactions with earth alkali metals.

Reactions with oxidizing agents.

**10.4. Conditions to avoid**

Above 120°C, a thermic decomposition may take place.

**10.5. Incompatible materials**

Alkaline metals and alkaline earth metals., Bases., oxidizing agents, Aluminium powder

**10.6. Hazardous decomposition products**

Chlorine and traces of phosgene.

Hydrogen chloride gas

Carbon monoxide and carbon dioxide.

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**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

### **Acute toxicity**

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

Trichloroethylene

LD50/oral/rat: 5400 mg/kg

LD50/dermal/rabbit: > 2000 mg/kg

LC50/inhalation/rat: 12500 ppm/4h

### **Irritation and corrosivity**

Causes serious eye irritation.

Causes skin irritation.

### **Sensitising effects**

May cause an allergic skin reaction. (Trichloroethylene )

### **STOT-single exposure**

May cause drowsiness or dizziness. (Trichloroethylene )

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

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

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

Suspected of causing genetic defects. (Trichloroethylene )

May cause cancer. (Trichloroethylene )

### **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**

Components of the product may be absorbed into the body through the skin. (skin absorption).

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

Effects of breathing high concentrations of vapour may include:

Headache, dizziness, weakness, unconsciousness.

Hazard of lung oedema.

Skin contact or inhalation of solvents contained in this product may cause irritation of skin, eyes and mucous membranes.

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## **SECTION 12: Ecological information**

### **12.1. Toxicity**

Trichloroethylene

LC50/Pimephales promelas/ 96 h = 42,4 mg/l

EC50/Daphnia magna/48 h = 20,8 mg/l

EC50/Algae/96 h = 36,5 mg/l

Zinc oxide

EC50/Selenastrum capricornutum/72 h = 0,17 mg/l

Harmful to aquatic life with long lasting effects.

### **12.2. Persistence and degradability**

Trichloroethylene

Biodegradable (OECD): 2,4% (14 d) [OECD 301C]

Not readily biodegradable.

### **12.3. Bioaccumulative potential**

Trichloroethylene

Low bio-accumulation can be estimated because of low log Po/w. (Log Pow: 2,53)

### **12.4. Mobility in soil**

Trichloroethylene

High mobility in soil.

### **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**

Severe hazard to waters

**Further information**

Do not flush into surface water or sanitary sewer system.

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**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.

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**SECTION 14: Transport information**

**Land transport (ADR/RID)**

**14.1. UN number:** UN1710  
**14.2. UN proper shipping name:** TRICHLOROETHYLENE, 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  
Transport category: 2  
Hazard No: 60  
Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number:** UN1710  
**14.2. UN proper shipping name:** TRICHLOROETHYLENE, 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

**Marine transport (IMDG)**

**14.1. UN number:** UN1710  
**14.2. UN proper shipping name:** TRICHLOROETHYLENE 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  
EmS: F-A, S-A

**Air transport (ICAO)**

**14.1. UN number:** UN1710  
**14.2. UN proper shipping name:** TRICHLOROETHYLENE SOLUTION  
**14.3. Transport hazard class(es):** 6.1  
**14.4. Packing group:** III  
Hazard label: 6.1



Limited quantity Passenger: Y642 / 2 L  
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. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

The transport takes place only in approved and appropriate packaging.

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**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.

**Additional information**

Chemical prohibition regulation consider.

**15.2. Chemical safety assessment**

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

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**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.
20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
34	Causes burns.
36/38	Irritating to eyes and skin.
45	May cause cancer.
50	Very toxic to aquatic organisms.
52	Harmful to aquatic organisms.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
53	May cause long-term adverse effects in the aquatic environment.
67	Vapours may cause drowsiness and dizziness.
68	Possible risks of irreversible effects.

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

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
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.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H400	Very toxic to aquatic life.
H410	Very 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)

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