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

1.1. Product identifier

TIP TOP SOLUTION HCR-4

Art.-No.

538 1646

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.
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.

Special labelling of certain mixtures

EUH066	Repeated exposure may cause skin dryness or cracking.
EUH208	Contains Colophonium. 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			< 55 %
	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 naphta (petroleum)]			< 40 %
	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			< 5 %
	215-222-5	030-013-00-7	01-2119463881-32	
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			
8050-09-7	Colophonium			< 1 %
	232-475-7	650-015-00-7	01-2119480418-32	
	Skin Sens. 1; H317			
137-26-8	Thiram			< 0,1 %
	205-286-2	006-005-00-4	01-2119492301-45	
	Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H302 H332 H315 H319 H317 H373 H400 H410			

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

Further Information

According to note P to the regulation (EC) no. 1272/2008, "Solvent naphta (petroleum)" is not to be classified as "carcinogenic" or "mutagen" ingredient because a benzene content (EINECS No. 200-753-7) is below 0.1 % by weight.

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.
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.
Repeated exposure may cause skin dryness or cracking.
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, carbon dioxide, sulphur oxides, and nitrogen oxides (NOx).
Chlorine compounds.

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.

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/m³	fibres/ml	Category	Origin
1333-86-4	Carbon black	-	3.5		TWA (8 h)	WEL
		-	7		STEL (15 min)	WEL
141-78-6	Ethyl acetate	200	-		TWA (8 h)	WEL
		400	-		STEL (15 min)	WEL
8050-09-7	Rosin-based solder flux fume	-	0.05		TWA (8 h)	WEL
		-	0.15		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.
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
Solvent-resistant apron (EN 467).
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:	Fruity

Changes in the physical state

Melting point:	< - 20 °C
Initial boiling point and boiling range:	> 76 °C
Flash point:	- 8 °C
Lower explosion limits:	1,2 vol. %
Upper explosion limits:	11,5 vol. %
Ignition temperature:	460 °C
Vapour pressure: (at 20 °C)	100 hPa
Density (at 20 °C):	0,96 g/cm³
Water solubility: (at 20 °C)	Immiscible
Viscosity / dynamic: (at 20 °C)	2000 mPa·s
Viscosity / kinematic: (at 40 °C)	> 20,5 mm²/s
Solvent content:	< 80 %

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
Strong oxidizing agents.

10.6. Hazardous decomposition products
Carbon monoxide, carbon dioxide, sulphur oxides, and nitrogen oxides (NOx).
Chlorine compounds.

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 naphta (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
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Attention. Beware, danger of aspiration!

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
Thiram
LC50/Oncorhynchus mykiss/96 h = 0,046 mg/l [OECD 203]
EC50/Daphnia magna/48 h = 0,38 mg/l [OECD 202]
EC50/Algae/72 h = 0,065 mg/l [OECD 201]
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):	75 - 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.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
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.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH208	Contains Colophonium. 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.)