



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

1.1. Product identifier

TIP TOP REMACOAT PR 100 C

Art.-No.

590 2843, 590 2860

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

Use of the substance/mixture

Coating system for protection against wear and corrosion

1.3. Details of the supplier of the safety data sheet

Company name: TIP TOP Oberflächenschutz Elbe GmbH

Street: Heuweg 4

Place: D-06886 Wittenberg

Telephone +49(0)3491/635-50

Telefax +49(0)3491/635-552

Responsible for the safety data sheet: 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: Xn - Harmful, Xi - Irritant

R phrases:

Flammable.

Harmful by inhalation and in contact with skin.

Irritating to eyes, respiratory system and skin.

Limited evidence of a carcinogenic effect.

May cause sensitisation by inhalation and skin contact.

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

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

Harmful: may cause lung damage if swallowed.

GHS classification

Hazard categories:

Flammable liquid: Flam. Liq. 3

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory/skin sensitization: Resp. Sens. 1

Respiratory/skin sensitization: Skin Sens. 1

Carcinogenicity: Carc. 2

Specific target organ toxicity - single exposure: STOT SE 3

Specific target organ toxicity - single exposure: STOT SE 3

Specific target organ toxicity - repeated exposure: STOT RE 2

Aspiration hazard: Asp. Tox. 1

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Harmful in contact with skin or if inhaled.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause respiratory irritation.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction.

May cause drowsiness or dizziness.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazardous components which must be listed on the label

Xylene (mixed isomers)

Diphenylmethanediisocyanate, isomers and homologues

Solvent naphta (petroleum)

4-isocyanatosulphonyltoluene

Signal word:

Danger

Pictograms:

GHS02-GHS07-GHS08



Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312+H332	Harmful in contact with skin or if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapour.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331	Do NOT induce vomiting.
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.
P309+P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P273	Avoid release to the environment.

Special labelling of certain mixtures

EUH014	Reacts violently with water.
EUH204	Contains isocyanates. 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 isocyanates

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
215-535-7	Xylene (mixed isomers)	< 50 %
1330-20-7	Xn - Harmful, Xi - Irritant R10-20/21-38	
601-022-00-9	Flam. Liq. 3, Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 2, Asp. Tox. 1; H226 H312 H332 H315 H319 H335 H373 H304	
01-2119486136-34		
	Diphenylmethanediisocyanate, isomers and homologues	< 50 %
9016-87-9	Carc. Cat. 3, Xn - Harmful, Xi - Irritant R20-36/37/38-40-42/43-48/20	
	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	
918-668-5	Solvent naphta (petroleum)	< 25 %
64742-95-6	Xn - Harmful, Xi - Irritant, N - Dangerous for the environment R10-37-51-53-65-66-67	
649-356-00-4	Flam. Liq. 3, STOT SE 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H226 H335 H336 H304 H411 EUH066	
01-2119455851-35		
500-039-8	Polypropylene glycol	< 25 %
25322-69-4	Xn - Harmful R22	
	Acute Tox. 4; H302	
202-849-4	Ethyl benzene	< 10 %
100-41-4	F - Highly flammable, Xn - Harmful R11-20	
601-023-00-4	Flam. Liq. 2, Acute Tox. 4; H225 H332	
01-2119489370-35		
223-810-8	4-isocyanatosulphonyltoluene	< 1 %
4083-64-1	Xi - Irritant R14-36/37/38-42	
615-012-00-7	Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, STOT SE 3; H315 H319 H334 H335 EUH014	
01-2119980050-47		

Full text of R-, H- and EUH-phrases: 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.

Take away from danger area and lay down affected person.

Symptoms of poisoning may not occur for many hours, therefore keep under medical supervision for at least 48 hours.

Adhere to personal protective measures when giving first aid.

After inhalation

If patient is not breathing, apply artificial respiration.

Move to fresh air in case of accidental inhalation of vapours.

Refer for medical treatment.

After contact with skin

Remove immediately adhering matter.

Wash off immediately with soap and plenty of water.

Treat subsequently with skin cream.

Consult a physician.

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.

Rinse mouth.

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

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Suspected of causing cancer.

Harmful in contact with skin or if inhaled.

May cause respiratory irritation.

May be fatal if swallowed and enters airways.

May cause damage to organs through prolonged or repeated exposure.

May cause drowsiness or dizziness.

With hypersensitive people, reactions as cough or difficulty of breathing may appear even with tiny concentrations of isocyanates; therefore keep room aerated and ventilated.

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

Alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water-spray.

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Fire may produce:

Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x).

Hydrogen cyanide (HCN)

Isocyanates (NCO).

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

In case of fire and/or explosion do not breathe fumes.

Additional information

Cool containers at risk with water spray jet.

Do not release chemically contaminated water into drains, soil or surface waters. Sufficient measures must be taken to retain water used for extinguishing.

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.

Ensure adequate ventilation.

Remove persons to safety.

Use personal protective clothing.

Keep away sources of ignition.

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.



Container should not be gas-tight closed.
 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).
 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.
 Avoid contact with the skin and the eyes.
 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.
 Vapours are heavier than air and spread along ground.
 Vapours can form an explosive mixture with air.
 Take precautionary measures against static discharges.

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.
 Keep at temperatures between 15°C and 25°C.

Advice on storage compatibility

Exothermic reaction with:
 Acids and bases.
 Water, amines, alcohols

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)

Coating system for protection against wear and corrosion

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
1333-86-4	Carbon black	-	3.5		TWA (8 h)	WEL
		-	7		STEL (15 min)	WEL
100-41-4	Ethylbenzene	100	441		TWA (8 h)	WEL
		125	552		STEL (15 min)	WEL
		-	0.02		TWA (8 h)	WEL
		-	0.07		STEL (15 min)	WEL
1330-20-7	Xylene: mixed isomers	50	220		TWA (8 h)	WEL
		100	441		STEL (15 min)	WEL

Biological Monitoring Guidance Values (EH40)

CAS No	Substance	Parameter	Value	Test material	Sampling time
1330-20-7	Xylene, o-, m-, p- or mixed isomers	methyl hippuric acid	650 mmol/mol	urine	Post 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

Chemical protective gloves made of nitrile, nitrile/cotton, butyl or neoprene, with a minimum thickness of 0.7 mm, permeation time of approx. 480 minutes.

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.

Pls. find examples in the protective gloves database under: <http://bestglove.com/site/chemrest/>

Skin protection

Light protective clothing

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:	Of aromatic carbon hydroxides	
Initial boiling point and boiling range:	137 °C	
Flash point:	30 °C	
Lower explosion limits:	0,7 vol. %	
Upper explosion limits:	7,5 vol. %	
Density (at 20 °C):	1 g/cm ³	
Water solubility:	Reacts with water.	
Ignition temperature:	355 °C	
Viscosity / kinematic: (at 40 °C)	< 20,5 mm ² /s	ISO 3104
Explosive properties:	The product is considered non-explosive; nevertheless explosive vapour/air mixture can be generated.	

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

Reacts with:

Water, amines, alcohols

Acids and bases.

10.4. Conditions to avoid

Vapours may form explosive mixture with air.

Container can be pressurized by carbon dioxide due to reaction with humid air and/or water.

Container should not be gas-tight closed. Risk of bursting.

10.5. Incompatible materials

Water, amines, alcohols

Acids and bases.

10.6. Hazardous decomposition products

Hydrogen cyanide gas.

Carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x).

Isocyanates

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful in contact with skin or if inhaled.

No toxicological data available.

Irritation and corrosivity

Causes serious eye irritation.

Causes skin irritation.

Sensitising effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Diphenylmethanediisocyanate, isomers and homologues), (4-isocyanatosulphonyltoluene)

May cause an allergic skin reaction. (Diphenylmethanediisocyanate, isomers and homologues)

STOT-single exposure

May cause respiratory irritation. (Xylene (mixed isomers)), (Diphenylmethanediisocyanate, isomers and homologues), (Solvent naphtha (petroleum)), (4-isocyanatosulphonyltoluene)

May cause drowsiness or dizziness. (Solvent naphtha (petroleum))

Severe effects after repeated or prolonged exposure

May cause damage to organs through prolonged or repeated exposure. (Xylene (mixed isomers)), (Diphenylmethanediisocyanate, isomers and homologues)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (Diphenylmethanediisocyanate, isomers and homologues)

Aspiration hazard

May be fatal if swallowed and enters airways.

Additional information on tests

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

Practical experience

Other observations

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

12.1. Toxicity

Ecological data are not available.

Harmful to aquatic life with long lasting effects.

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.

In aqueous systems, formation of insoluble and chemically inert (inactive) polyureas.

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 packagings are to be treated like the product itself.

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (Xylene (mixed isomers), Solvent naphta (petroleum))
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3



Classification code:	F1
Limited quantity:	5 L / 30 kg
Transport category:	3
Hazard No:	30
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number:	UN 1993
14.2. UN proper shipping name:	FLAMMABLE LIQUID, N.O.S. (Xylene (mixed isomers), Solvent naphta (petroleum))
14.3. Transport hazard class(es):	3
14.4. Packing group:	III
Hazard label:	3



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

Marine transport (IMDG)

14.1. UN number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (Xylene, Solven Naphtha (petroleum))
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3



Marine pollutant: No
Limited quantity: 5 L / 30 kg
EmS: F-E, S-E

Air transport (ICAO)

14.1. UN number: UN 1993
14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S. (Xylene, Solven Naphtha (petroleum), mixture)
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3



Limited quantity Passenger: Y344 / 10 L
IATA-packing instructions - Passenger: 355
IATA-max. quantity - Passenger: 60 L
IATA-packing instructions - Cargo: 366
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 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): 50 %; 494 g/l

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.

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

Relevant R-phrases (Number and full text)

- 10 Flammable.
- 11 Highly flammable.
- 14 Reacts violently with water.
- 20 Harmful by inhalation.
- 20/21 Harmful by inhalation and in contact with skin.
- 22 Harmful if swallowed.
- 36/37/38 Irritating to eyes, respiratory system and skin.
- 37 Irritating to respiratory system.
- 38 Irritating to skin.
- 40 Limited evidence of a carcinogenic effect.
- 42 May cause sensitisation by inhalation.
- 42/43 May cause sensitisation by inhalation and skin contact.
- 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- 51 Toxic to aquatic organisms.
- 53 May cause long-term adverse effects in the aquatic environment.
- 65 Harmful: may cause lung damage if swallowed.
- 66 Repeated exposure may cause skin dryness or cracking.
- 67 Vapours may cause drowsiness and dizziness.

Relevant H- and EUH-phrases (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.
- H312 Harmful in contact with skin.
- H312+H332 Harmful in contact with skin or if inhaled.
- 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.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.



EUH014	Reacts violently with water.
EUH066	Repeated exposure may cause skin dryness or cracking.
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.)