



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

### 1.1. Product identifier

TIP TOP COROFLAKE 27

Art.-No.

590 0730, 590 0740

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

#### Use of the substance/mixture

Coating material

### 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

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: Xn - Harmful, Xi - Irritant

R phrases:

Possible risk of harm to the unborn child.

Flammable.

Harmful by inhalation.

Irritating to eyes and skin.

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

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

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

Reproductive toxicity: Repr. 2

Specific target organ toxicity - single exposure: STOT SE 3

Specific target organ toxicity - repeated exposure: STOT RE 1

Hazard Statements:

Flammable liquid and vapour.

Harmful if inhaled.

May cause respiratory irritation.

Causes serious eye irritation.

Causes skin irritation.

Suspected of damaging the unborn child.

Causes damage to organs through prolonged or repeated exposure.

### 2.2. Label elements

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

Styrene

Signal word: Danger

Pictograms: GHS02-GHS07-GHS08



#### Hazard statements

H226	Flammable liquid and vapour.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.

#### Precautionary statements

P202	Do not handle until all safety precautions have been read and understood.
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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405	Store locked up.

#### Special labelling of certain mixtures

EUH208	Contains Fatty acids, C6-C19, branched, Co(2+)salts. May produce an allergic reaction.
--------	--

#### 2.3. Other hazards

No data available.

---

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Chemical characterization

Epoxide-vinyl ester-resin in styrene

**Hazardous components**

EC No	Chemical name	Quantity
CAS No	Classification according to Directive 67/548/EEC	
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
REACH No		
202-851-5	Styrene	< 35 %
100-42-5	Repr. Cat. 3, Xn - Harmful, Xi - Irritant R63-10-20-36/38-48/20	
601-026-00-0	Flam. Liq. 3, Repr. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3, STOT RE 1, Asp. Tox. 1; H226 H361d H332 H315 H319 H335 H372 H304	
01-2119457861-32		
270-066-5	Fatty acids, C6-C19, branched, Co(2+)salts	< 1 %
68409-81-4	Xn - Harmful, Xi - Irritant R22-38-43	
	Acute Tox. 4, Skin Irrit. 2, Skin Sens. 1; H302 H315 H317	
200-659-6	Methanol	< 1 %
67-56-1	F - Highly flammable, T - Toxic R11-23/24/25-39/23/24/25	
603-001-00-X	Flam. Liq. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, STOT SE 1; H225 H301 H311 H331 H370	
01-2119433307-44		
204-493-5	N,N-Dimethylaniline	< 1 %
121-69-7	Carc. Cat. 3, T - Toxic, N - Dangerous for the environment R40-23/24/25-51-53	
612-016-00-0	Carc. 2, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Aquatic Chronic 2; H351 H301 H311 H331 H411	
01-2119935241-47		

Full text of R-, H- and EUH-phrases: see section 16.

**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.

Seek medical treatment immediately.

If patient is not breathing, apply artificial respiration. In case of breathing difficulties give oxygen.

**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.

Consult (eye) doctor immediately.

**After ingestion**

Do not induce vomiting.

Summon a doctor immediately.

Rinse out mouth and give plenty of water to drink.

Never give anything by mouth to an unconscious person.

Induce vomiting only upon the advice of a physician.

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

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure. (the ear)

Suspected of damaging the unborn child.

---

#### **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 (CO<sub>2</sub>), 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

Irritant/corrosive, flammable as well as toxic distillation gases (carbonization gases).

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

Wear self-contained breathing apparatus and 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.

Collect contaminated firefighting water separately, must not be discharged into the drains.

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.

#### **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.

Use only in thoroughly ventilated areas.

Provide suitable extraction at the processing machines.

##### **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.  
Storage temperature between 10°C to 30°C (=50°F to 86°F).

**Advice on storage compatibility**

Incompatible with:  
Oxidizing agents, Metal halogenides, Peroxides

**Further information on storage conditions**

Keep away from food, drink and animal feeding stuffs.

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

Coating material

**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
67-56-1	Methanol	200	266		TWA (8 h)	WEL
		250	333		STEL (15 min)	WEL
12001-26-2	Mica, total inhalable	-	10		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
121-69-7	N,N-Dimethylaniline	5	25		TWA (8 h)	WEL
		10	50		STEL (15 min)	WEL
100-42-5	Styrene	100	430		TWA (8 h)	WEL
		250	1080		STEL (15 min)	WEL
13463-67-7	Titanium dioxide, respirable	-	4		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

**8.2. Exposure controls**

**Appropriate engineering controls**

Ensure adequate ventilation, especially in confined areas.  
Pay attention to explosion protection guidelines.

**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**

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**

Long sleeved clothing (EN 368).  
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:	Viscous liquid	
Colour:	Beige	
Odour:	Like styrene	
Flash point:	31 °C	*)
Lower explosion limits:	1,1 vol. %	*)
Upper explosion limits:	8,9 vol. %	*)
Vapour pressure: (at 20 °C)	6 hPa	*)
Density:	1,14 - 1,18 g/cm <sup>3</sup>	
Water solubility: (at 20 °C)	Immiscible	
Ignition temperature:	480 °C	*)
Viscosity / dynamic: (at 25 °C)	3000 - 3500 mPa·s	
Viscosity / kinematic: (at 40 °C)	> 20,5 mm <sup>2</sup> /s	
Flow time: (at 25 °C)	> 40 s	Ford beaker, no. 6

### 9.2. Other information

\*) Styrene

---

## 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.

Reactions with peroxides.

### 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.

Avoid temperatures above 50°C.

If heating up polymerisation.

### 10.5. Incompatible materials

Metal halogenides, oxidizing agents, Peroxides

### 10.6. Hazardous decomposition products

Irritant/corrosive, flammable as well as toxic distillation gases (carbonization gases).

Carbon monoxide and carbon dioxide.

---

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### **Acute toxicity**

Harmful if inhaled.

No toxicological data available.

Styrene

LD50/oral/rat: 5000 mg/kg

LD50/dermal/rat: > 2000 mg/kg

LC50/inhalation/rat: 11,8 mg/l/4h

### **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 respiratory irritation. (Styrene)

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

Causes damage to organs through prolonged or repeated exposure. (Styrene)

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

Suspected of damaging the unborn child. (Styrene)

### **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**

Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

---

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

Ecological data are not available.

Styrene

LC50/Pimephales promelas/96 h = 4,02 mg/kg

EC50/Daphnia magna/48 h = 4,7 mg/kg

EC50/Pseudokirchneriella subcapitata/72 h > 4,9 mg/kg

### **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.

Product is toxic to fish and their nutrient animals.

### **Further information**

Do not flush into surface water or sanitary sewer system.

---

## **SECTION 13: Disposal considerations**

### **13.1. Waste treatment methods**

#### **Advice on disposal**

Can be incinerated, when in compliance with local regulations.  
Where possible recycling is preferred to disposal.

#### **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**

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 1866  
**14.2. UN proper shipping name:** Resin solution  
**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

**Other applicable information (land transport)**

Viscous substance - excepted quantity if in containers with a capacity up to 450 l (subsection 2.2.3.1.5 ADR).

**Inland waterways transport (ADN)**

**14.1. UN number:** UN 1866  
**14.2. UN proper shipping name:** Resin solution  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
Hazard label: 3



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

**Other applicable information (inland waterways transport)**

Viscous substance - excepted quantity if in containers with a capacity up to 450 l (subsection 2.2.3.1.5 ADN).

**Marine transport (IMDG)**

**14.1. UN number:** UN 1866  
**14.2. UN proper shipping name:** Resin solution  
**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

**Other applicable information (marine transport)**

Viscous substance - excepted quantity if in containers with a capacity up to 30 l (subsection 2.3.2.5 IMDG Code).



#### Air transport (ICAO)

<b>14.1. UN number:</b>	UN 1866
<b>14.2. UN proper shipping name:</b>	Resin solution
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	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): < 5 %; < 90 g/l

##### 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

---

**Relevant R-phrases (Number and full text)**

10	Flammable.
11	Highly flammable.
20	Harmful by inhalation.
22	Harmful if swallowed.
23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
36/38	Irritating to eyes and skin.
38	Irritating to skin.
39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
40	Limited evidence of a carcinogenic effect.
43	May cause sensitisation by 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.
63	Possible risk of harm to the unborn child.

**Relevant H- and EUH-phrases (Number and full text)**

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
EUH208	Contains Fatty acids, C6-C19, branched, Co(2+)salts. 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.)*