

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

1.1. Product identifier

TIP TOP HARDENER No. 1

Art.-No.

590 0019, 590 0112, 590 0181, 590 0356, 590 1238

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

Use of the substance/mixture

Hardener

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 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
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SECTION 2: Hazards identification

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

Hazard categories:

Flammable liquid: Flam. Liq. 3

Organic peroxide: Org. Perox. F

Acute toxicity: Acute Tox. 3

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1B

Serious eye damage/eye irritation: Eye Dam. 1

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 2

Hazard Statements:

Flammable liquid and vapour.

Heating may cause a fire.

Toxic if inhaled.

May be fatal if swallowed and enters airways.

Harmful if swallowed or in contact with skin.

May cause respiratory irritation.

Causes severe skin burns and eye damage.

May cause damage to organs through prolonged or repeated exposure.

Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazardous components which must be listed on the label

Dimethylbenzyl hydroperoxide

Cumene

Signal word:

Danger

Pictograms:



Hazard statements

H226 Flammable liquid and vapour.

H242 Heating may cause a fire.

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H331	Toxic if inhaled.
H304	May be fatal if swallowed and enters airways.
H302+H312	Harmful if swallowed or in contact with skin.
H335	May cause respiratory irritation.
H314	Causes severe skin burns and eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P405	Store locked up.
P273	Avoid release to the environment.

2.3. Other hazards

Vapours may form explosive mixture with air.

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

Cumene hydroperoxide (80%) in cumene

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
80-15-9	Dimethylbenzyl hydroperoxide			80 - 90 %
	201-254-7	617-002-00-8	01-2119475796-19	
	Org. Perox. E, Acute Tox. 3, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, STOT RE 2, Aquatic Chronic 2; H242 H331 H302 H312 H314 H373 H411			
98-82-8	Cumene			10 - 20 %
	202-704-5	601-024-00-X	01-2119473983-24	
	Flam. Liq. 3, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H226 H335 H304 H411			

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.

Adhere to personal protective measures when giving first aid.

Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours.

After inhalation

Supply fresh air, if required oxygen, consult a physician.

If patient is not breathing, apply artificial respiration.

Remove the casualty into fresh air and keep him immobile.

In case of the person being unconscious put him/her in a stable side position.

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

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

Toxic if inhaled.
Harmful if swallowed or in contact with skin.
May be fatal if swallowed and enters airways.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

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 and carbon dioxide
Hydrocarbons

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

Additional information

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.
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

Shovel into suitable container for disposal.
Soak up with inert absorbent material (e.g. vermiculite, clean sand).
Dilute larger quantities of desensitization agent (e.g. fuel oil) to < 10% before 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

Wash hands before breaks and at the end of workday.



Product may only come into contact with suitable materials, such as e.g. polyethylene or high-grade steel.

Keep away from soil, rust, chemicals, strong acids and bases and accelerators.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Keep away from open flames, hot surfaces and sources of ignition.

Use explosion-proof equipment / fittings and non-sparking tools.

Vapours can form an explosive mixture with air.

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 only in original container.

Storage temperature between 0°C to 30°C (=32°F to 86°F).

Advice on storage compatibility

Storage together with other hazardous substances is not allowed.

Further information on storage conditions

Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Hardener

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
98-82-8	Cumene	25	125		TWA (8 h)	WEL
		50	250		STEL (15 min)	WEL

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures

Avoid contact with eyes and skin.

Wash hands before breaks and immediately after handling the product.

Treat subsequently with skin cream.

When using do not eat, drink or smoke.

Remove and wash contaminated clothing 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).

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:	Clear or red
Odour:	characteristic

pH-Value (at 20 °C): > 5 (13 g/l)

Changes in the physical state

Flash point:	60 °C
Explosive properties	The product is considered non-explosive; nevertheless explosive vapour/air mixture can be generated.
Lower explosion limits:	n.d.
Upper explosion limits:	n.d.
Ignition temperature:	n.d.
Vapour pressure: (at 20 °C)	4 hPa
Density (at 20 °C):	1,034 g/cm ³
Water solubility: (at 20 °C)	13 g/L
Partition coefficient:	((n-octanol/water)) 2,16
Viscosity / dynamic: (at 20 °C)	15 mPa·s
Solvent content:	< 20 %

9.2. Other information

Decomposition starting from 80°C (SADT)

Active oxygen: 8,3 - 8,7%

SECTION 10: Stability and reactivity

10.1. Reactivity

No decomposition if stored normally.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts with:

Soil, rust, chemicals, strong acids and bases and accelerators (heavy metal salts, amines).

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

Self-Accelerating decomposition temperature (SADT) 80°C.

10.5. Incompatible materials

Soil, rust, chemicals, strong acids and bases and accelerators (heavy metal salts, amines).

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

Hydrocarbons

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Toxic if inhaled.

Harmful if swallowed or in contact with skin.

No toxicological data available.

Irritation and corrosivity

Causes severe skin burns and eye damage.



Sensitising effects

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

STOT-single exposure

May cause respiratory irritation. (Cumene)

Severe effects after repeated or prolonged exposure

May cause damage to organs through prolonged or repeated exposure. (Dimethylbenzyl hydroperoxide)

Carcinogenic/mutagenic/toxic effects for reproduction

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

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

Danger of perforation of the gullet and of the stomach.

SECTION 12: Ecological information

12.1. Toxicity

Ecological data are not available.

Toxic to aquatic life with long lasting effects.

Dimethylbenzyl hydroperoxide

LC50/Leuciscus idus = 10 - 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.

Risk of drinking water contamination even when low quantities are released into the ground.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

In compliance with regulations by local authorities this can be subjected to a special treatment (e.g. thermal utilization) after dilution with an inert inflammable solvent (e.g. fuel oil) to 10%.

Where possible recycling is preferred to disposal.

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 3109

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14.2. UN proper shipping name:

ORGANIC PEROXIDE TYPE F, LIQUID (Dimethylbenzyl hydroperoxide)

14.3. Transport hazard class(es):

5.2

14.4. Packing group:

-

Hazard label:

5.2+8



Classification code:

P1

Limited quantity:

125 mL / 30 kg

Excepted quantity:

E0

Transport category:

2

Hazard No:

539

Tunnel restriction code:

D

Inland waterways transport (ADN)

14.1. UN number:

UN 3109

14.2. UN proper shipping name:

ORGANIC PEROXIDE TYPE F, LIQUID (Dimethylbenzyl hydroperoxide)

14.3. Transport hazard class(es):

5.2

14.4. Packing group:

-

Hazard label:

5.2+8



Classification code:

P1

Special Provisions:

122 274

Limited quantity:

125 mL / 30 kg

Excepted quantity:

E0

Marine transport (IMDG)

14.1. UN number:

UN 3109

14.2. UN proper shipping name:

ORGANIC PEROXIDE TYPE F, LIQUID (cumyl hydroperoxide)

14.3. Transport hazard class(es):

5.2

14.4. Packing group:

-

Hazard label:

5.2



Marine pollutant:

Yes

Limited quantity:

125 mL / 30 kg

Excepted quantity:

E0

EmS:

F-J, S-R

Air transport (ICAO)

14.1. UN number:

UN 3109

14.2. UN proper shipping name:

ORGANIC PEROXIDE TYPE F, LIQUID (cumyl hydroperoxide)

14.3. Transport hazard class(es):

5.2

14.4. Packing group:

-

Hazard label:

5.2



Limited quantity Passenger:

Forbidden

Passenger LQ:

Forbidden

Excepted quantity:

E0

IATA-packing instructions - Passenger:	570
IATA-max. quantity - Passenger:	10 L
IATA-packing instructions - Cargo:	570
IATA-max. quantity - Cargo:	25 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 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

2004/42/EC (VOC): 20 %

National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D): 2 - water contaminating

Additional information

Consider Chemical prohibition regulation.

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)

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H302	Harmful if swallowed.
H302+H312	Harmful if swallowed or in contact with skin.
H304	May be fatal if swallowed and enters airways.



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H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic 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.)