



## Safety Data Sheet

according to UK REACH Regulation

### TIP TOP HARDENER No. 1 CLEAR / TIP TOP HARDENER No. 1 RED

Revision date: 23.08.2023

Product code: 00359-1065

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#### Pictograms:



#### Hazard statements

H242	Heating may cause a fire.
H302+H312	Harmful if swallowed or in contact with skin.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic 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.
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 or 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

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

Possible adverse effects: those of corticoids in general (bodyweight gain, acne, purpura and stretch marks, excitation and sleep disorders, metabolic and endocrinal disorders).

Vapours may form explosive mixture with air.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Chemical characterization

Mixture containing following substances with additives

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**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
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 H312 H302 H314 H373 H411			
98-82-8	Cumene			10 - 20 %
	202-704-5	601-024-00-X	01-2119473983-24	
	Flam. Liq. 3, Carc. 1B, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H226 H350 H335 H304 H411			
617-94-7	2-Phenylpropan-2-ol			2,5 - 5 %
	210-539-5		01-2119965145-35	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H302 H315 H319			

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

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
80-15-9	201-254-7	Dimethylbenzyl hydroperoxide	80 - 90 %
	inhalation: LC50 = 1,4 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = 500 mg/kg; oral: LD50 = 382 mg/kg Skin Corr. 1B; H314: >= 10 - 100 Skin Irrit. 2; H315: >= 3 - < 10 Eye Dam. 1; H318: >= 3 - < 10 Eye Irrit. 2; H319: >= 1 - < 3 STOT SE 3; H335: >= 1 - 100		
98-82-8	202-704-5	Cumene	10 - 20 %
	inhalation: LC50 = 39 mg/l (vapours); dermal: LD50 = 12300 mg/kg		
617-94-7	210-539-5	2-Phenylpropan-2-ol	2,5 - 5 %
	oral: ATE = 500 mg/kg		

**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.



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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 cancer.  
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 (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  
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**

##### **General advice**

Ensure adequate ventilation.  
Keep away sources of ignition.  
Keep away noninvolved persons.

##### **For non-emergency personnel**

Do not breathe vapours.  
Avoid contact with skin, eyes and clothing.

##### **For emergency responders**

In case of vapour formation use respirator.  
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.  
Inform competent authority about release into the sewage, ground or into waters.

#### **6.3. Methods and material for containment and cleaning up**

##### **For containment**

Prevent spread over a wide area (e.g. by containment or oil barriers).

##### **For cleaning up**

Shovel into suitable container for disposal.



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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.  
Provide appropriate ventilation and exhaust ventilation at the workplaces.  
Use only in thoroughly ventilated areas.  
When using do not eat, drink or smoke.  
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.  
Avoid impact and friction.

#### 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).

##### **Hints on joint storage**

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 <sup>3</sup>	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.

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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 (DIN EN ISO 6530)  
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:

n.d.

**Test method****Changes in the physical state**

Melting point/freezing point: n.a.

Boiling point or initial boiling point and n.a.

boiling range:

Sublimation point: n.a.

Softening point: n.a.

Flash point: 64 °C

**Flammability**

Solid/liquid: n.a.

**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.

Auto-ignition temperature: n.d.

**Self-ignition temperature**

Solid: n.a.

Gas: n.a.

Decomposition temperature: +80 °C (SADT)

**Oxidizing properties**

Oxidizing

Vapour pressure: n.d.  
(at 20 °C)

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Density (at 20 °C):	1,04 g/cm <sup>3</sup>
Water solubility: (at 20 °C)	n.d.
Partition coefficient n-octanol/water:	n.d.
Viscosity / dynamic: (at 20 °C)	15 mPa·s
Viscosity / kinematic:	n.d.
Relative vapour density:	n.d.
Evaporation rate:	n.d.
Solvent content:	< 20 %

**9.2. Other information**

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**

No hazardous decomposition products known.

Fire may produce:

Carbon monoxide and carbon dioxide

Hydrocarbons

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

Toxic if inhaled.

Harmful if swallowed.

Harmful in contact with skin.

No toxicological data available.

**ATEmix calculated**

ATE (oral) &gt; 2000 mg/kg; ATE (dermal) &gt; 2000 mg/kg; ATE (inhalation vapour) &gt; 20 mg/l; ATE (inhalation dust/mist) &gt; 5 mg/l

**Irritation and corrosivity**

Causes severe skin burns and eye damage.

**Sensitising effects**

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

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



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May cause cancer. (Cumene)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

#### STOT-single exposure

May cause respiratory irritation. (Dimethylbenzyl hydroperoxide; Cumene)

#### STOT-repeated exposure

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

#### 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.

#### 11.2. Information on other hazards

##### Endocrine disrupting properties

No data available

##### Other information

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

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

#### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### 12.7. 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

##### Disposal recommendations

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.



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Packaging that cannot be cleaned should be disposed of like the product.

#### SECTION 14: Transport information


##### Land transport (ADR/RID)

<b>14.1. UN number:</b>	UN 3109
<b>14.2. UN proper shipping name:</b>	ORGANIC PEROXIDE TYPE F, LIQUID (Dimethylbenzyl hydroperoxide)
<b>14.3. Transport hazard class(es):</b>	5.2
<b>14.4. Packing group:</b>	-
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)

<b>14.1. UN number:</b>	UN 3109
<b>14.2. UN proper shipping name:</b>	ORGANIC PEROXIDE TYPE F, LIQUID (Dimethylbenzyl hydroperoxide)
<b>14.3. Transport hazard class(es):</b>	5.2
<b>14.4. Packing group:</b>	-
Hazard label:	5.2+8 
Classification code:	P1
Limited quantity:	125 mL / 30 kg
Excepted quantity:	E0

##### Marine transport (IMDG)

<b>14.1. UN number:</b>	UN 3109
<b>14.2. UN proper shipping name:</b>	ORGANIC PEROXIDE TYPE F, LIQUID (cumyl hydroperoxide)
<b>14.3. Transport hazard class(es):</b>	5.2
<b>14.4. Packing group:</b>	-
Hazard label:	5.2+8 
Marine pollutant:	Yes
Limited quantity:	125 mL
Excepted quantity:	E0
EmS:	F-J, S-R

##### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number:</b>	UN 3109
<b>14.2. UN proper shipping name:</b>	ORGANIC PEROXIDE TYPE F, LIQUID (cumyl hydroperoxide)
<b>14.3. Transport hazard class(es):</b>	5.2

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#### 14.4. Packing group:

Hazard label:

-

5.2+8



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. Maritime transport in bulk according to IMO instruments

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

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

2004/42/EC (VOC):

20 %

Information according to 2012/18/EU (SEVESO III):

P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

Additional information:

E2

##### National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles 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 hazard class (D):

2 - obviously hazardous to water

##### 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

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**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

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Org. Perox. F; H242	Practical experience/human evidence
Acute Tox. 3; H331	Calculation method
Acute Tox. 4; H302	Calculation method
Acute Tox. 4; H312	Calculation method
Asp. Tox. 1; H304	Calculation method
Skin Corr. 1B; H314	Calculation method
Carc. 1B; H350	Calculation method
STOT SE 3; H335	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 2; H411	Calculation method

**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.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

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**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)

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