



DRIVING SURFACE PERFECTION

# REFACE SPRAYABLE FILLER HARDENER

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  
SDS Ref. (EU): HARSF2-SDS  
Issue date: 4/1/2021 Version: 1.0

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

#### 1.1. Product identifier

Product form : Mixture  
Trade name : REFACE SPRAYABLE FILLER HARDENER  
UFI : 5QA1-A04E-Q00C-JRG2  
Product code : HAR/SF  
Product group : Organic peroxide  
Other means of identification : UPOL/SF1, UPOL/SF2

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

##### 1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use  
Use of the substance/mixture : Coatings and paints, thinners, paint removers  
Function or use category : Hardener (Crosslinker)

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Manufacturer

U-POL Limited  
Denington Road  
NN8 2QH Wellingborough - United Kingdom  
T +44 (0) 1933 230310  
[technicalsupport@u-pol.com](mailto:technicalsupport@u-pol.com) - [www.u-pol.com](http://www.u-pol.com)

##### Importer

U-POL Netherlands B.V.  
Hoogoorddreef 15  
1101BA Amsterdam - Netherlands  
T +31 20 240 2216  
[technicalsupport@u-pol.com](mailto:technicalsupport@u-pol.com) - [www.u-pol.com](http://www.u-pol.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: +44 (0) 870 8200418 (24 hrs)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	NHS England, Scotland & Wales	-	Call 111 or a Doctor	In Northern Ireland, contact your local GP or pharmacist during normal hours ( <a href="http://www.gpoutofhours.hscni.net">www.gpoutofhours.hscni.net</a> )

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2 H225  
Organic Peroxides, Type D H242  
Skin corrosion/irritation, Category 1, Sub-Category 1B H314  
Serious eye damage/eye irritation, Category 1 H318  
Specific target organ toxicity — Single exposure, Category 3, Narcosis H336

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Full text of H-statements: see section 16

### Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Heating may cause a fire. May cause drowsiness or dizziness. Causes severe skin burns and eye damage.

## 2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Contains

: ethyl acetate; methylethyl ketone peroxide

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.

H242 - Heating may cause a fire.

H314 - Causes severe skin burns and eye damage.

H336 - May cause drowsiness or dizziness.

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P234 - Keep only in original packaging.

P261 - Avoid breathing vapours, fume, spray.

P280 - Wear eye protection, protective clothing, protective gloves.

P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Immediately call a doctor.

P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a doctor.

P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor.

P403+P235 - Store in a well-ventilated place. Keep cool.

EUH-statements

: EUH066 - Repeated exposure may cause skin dryness or cracking.

Unknown acute toxicity (CLP) - SDS

: 1.86% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

Labelling according to: exemption for packages of a capacity of 125ml or less

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazardous ingredients

: ethyl acetate; methylethyl ketone peroxide

Hazard statements (CLP)

: H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P280 - Wear eye protection, protective clothing, protective gloves.

P301+P330+P331+P310 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Immediately call a doctor.

P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a doctor.

P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor.

EUH-statements

: EUH066 - Repeated exposure may cause skin dryness or cracking.

## 2.3. Other hazards

### Component

ethyl acetate (141-78-6)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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methylethyl ketone peroxide (1338-23-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
ethyl methyl ketone (78-93-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethyl acetate substance with a Community workplace exposure limit	(CAS-No.) 141-78-6 (EC-No.) 205-500-4 (EC Index-No.) 607-022-00-5 (REACH-no) 01-2119475103-46	25 – 50	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
methylethyl ketone peroxide	(CAS-No.) 1338-23-4 (EC-No.) 215-661-2 (REACH-no) 01-2119437229-36	10 – 25	Org. Perox. A, H240 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1B, H314 Eye Dam. 1, H318
ethyl methyl ketone substance with a Community workplace exposure limit	(CAS-No.) 78-93-3 (EC-No.) 201-159-0 (EC Index-No.) 606-002-00-3 (REACH-no) 01-2119457290-43	0.3 – 2.5	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

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

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Burns. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

#### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour. Heating may cause a fire.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe vapours, spray, fume.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe vapours, spray, fume.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from other materials. Protect from sunlight. Keep only in original container. Store locked up.

Incompatible materials : combustible materials.

Storage temperature : ≤ 25 °C

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### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

ethyl acetate (141-78-6)	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Ethyl acetate
IOEL TWA	734 mg/m <sup>3</sup>
IOEL TWA [ppm]	200 ppm
IOEL STEL	1468 mg/m <sup>3</sup>
IOEL STEL [ppm]	400 ppm
Regulatory reference	COMMISSION DIRECTIVE (EU) 2017/164
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Ethyl acetate
OEL TWA [1]	734 mg/m <sup>3</sup>
OEL TWA [2]	200 ppm
OEL STEL	1468 mg/m <sup>3</sup>
OEL STEL [ppm]	400 ppm
Notes (IE)	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2020
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Ethyl acetate
WEL TWA (OEL TWA) [1]	734 mg/m <sup>3</sup>
WEL TWA (OEL TWA) [2]	200 ppm
WEL STEL (OEL STEL)	1468 mg/m <sup>3</sup>
WEL STEL (OEL STEL) [ppm]	400 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

ethyl methyl ketone (78-93-3)	
<b>EU - Indicative Occupational Exposure Limit (IOEL)</b>	
Local name	Butanone
IOEL TWA	600 mg/m <sup>3</sup>
IOEL TWA [ppm]	200 ppm
IOEL STEL	900 mg/m <sup>3</sup>
IOEL STEL [ppm]	300 ppm
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC COMMISSION DIRECTIVE 2000/39/EC
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Methyl ethyl ketone (MEK)

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<b>ethyl methyl ketone (78-93-3)</b>	
OEL TWA [1]	600 mg/m <sup>3</sup>
OEL TWA [2]	200 ppm
OEL STEL	900 mg/m <sup>3</sup>
OEL STEL [ppm]	300 ppm
Notes (IE)	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2020
<b>Ireland - Biological limit values</b>	
Local name	Butan-2-one
BLV	70 µmol/l Parameter: butan-2- one - Medium: urine - Sampling time: Post shift
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Butan-2-one (methyl ethyl ketone)
WEL TWA (OEL TWA) [1]	600 mg/m <sup>3</sup>
WEL TWA (OEL TWA) [2]	200 ppm
WEL STEL (OEL STEL)	899 mg/m <sup>3</sup>
WEL STEL (OEL STEL) [ppm]	300 ppm
Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>United Kingdom - Biological limit values</b>	
Local name	Butan-2-one (methyl ethyl ketone)
BMGV	70 µmol/l Parameter: butan-2-one - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>methylethyl ketone peroxide (1338-23-4)</b>	
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Methyl ethyl ketone peroxides (MEKP)
OEL STEL	1.5 mg/m <sup>3</sup>
OEL STEL [ppm]	0.2 ppm
Regulatory reference	Chemical Agents Code of Practice 2020
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Methyl ethyl ketone peroxides (MEKP)
WEL STEL (OEL STEL)	1.5 mg/m <sup>3</sup>
WEL STEL (OEL STEL) [ppm]	0.2 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

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### 8.1.4. DNEL and PNEC

<b>ethyl acetate (141-78-6)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, inhalation	1468 mg/m <sup>3</sup>
Acute - local effects, inhalation	1468 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	63 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	734 mg/m <sup>3</sup>
Long-term - local effects, inhalation	734 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, inhalation	734 mg/m <sup>3</sup>
Acute - local effects, inhalation	734 mg/m <sup>3</sup>
Long-term - systemic effects, oral	4.5 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	367 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	37 mg/kg bodyweight/day
Long-term - local effects, inhalation	367 mg/m <sup>3</sup>
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.24 mg/l
PNEC aqua (marine water)	0.024 mg/l
PNEC aqua (intermittent, freshwater)	1.65 mg/l
<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	1.15 mg/kg dwt
PNEC sediment (marine water)	0.115 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	0.148 mg/kg dwt
<b>PNEC (Oral)</b>	
PNEC oral (secondary poisoning)	0.2 g/kg food
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	650 mg/l

<b>ethyl methyl ketone (78-93-3)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, dermal	1161 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	600 mg/m <sup>3</sup>
<b>DNEL/DMEL (General population)</b>	
Long-term - systemic effects, oral	31 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	106 mg/m <sup>3</sup>
Long-term - systemic effects, dermal	412 mg/kg bodyweight/day
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	55.8 mg/l
PNEC aqua (marine water)	55.8 mg/l
PNEC aqua (intermittent, freshwater)	55.8 mg/l

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<b>PNEC (Sediment)</b>	
PNEC sediment (freshwater)	284.74 mg/kg dwt
PNEC sediment (marine water)	284.7 mg/kg dwt
<b>PNEC (Soil)</b>	
PNEC soil	22.5 mg/kg dwt
<b>PNEC (Oral)</b>	
PNEC oral (secondary poisoning)	1000 mg/kg food
<b>PNEC (STP)</b>	
PNEC sewage treatment plant	709 mg/l

<b>methylethyl ketone peroxide (1338-23-4)</b>	
<b>DNEL/DMEL (Workers)</b>	
Long-term - systemic effects, inhalation	5.288 mg/m <sup>3</sup> (DGUV DNEL List 2019)

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

### 8.2.2. Personal protection equipment

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

<b>Eye protection:</b>
Safety glasses

#### 8.2.2.2. Skin protection

<b>Skin and body protection:</b>
Wear suitable protective clothing

<b>Hand protection:</b>
Protective gloves

#### 8.2.2.3. Respiratory protection

<b>Respiratory protection:</b>
In case of insufficient ventilation, wear suitable respiratory equipment

#### 8.2.2.4. Thermal hazards

No additional information available



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### 8.2.3. Environmental exposure controls

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: > 77 °C
Flammability	: Heating may cause a fire.
Explosive limits	: Not available
Lower explosive limit (LEL)	: Not available
Upper explosive limit (UEL)	: Not available
Flash point	: 6 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
SADT	: 50 °C
pH	: Not available
Viscosity, kinematic	: < 0.5 mm <sup>2</sup> /s
Viscosity, dynamic	: < 0.5 mPa·s
Solubility	: partly miscible.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: 1 g/ml
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

### 9.2. Other information

VOC content : 539 g/l

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

VOC content : 539 g/l

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Highly flammable liquid and vapour. Heating may cause a fire.

### 10.2. Chemical stability

Stable under normal conditions.

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### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Combustible materials.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

#### ethyl acetate (141-78-6)

LD50 oral rat	10200 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral)
LD50 oral	4934 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 20000 mg/kg bodyweight Animal: rabbit, Animal sex: male

#### ethyl methyl ketone (78-93-3)

LD50 oral rat	2193 mg/kg bodyweight (Equivalent or similar to OECD 423, Rat, Male / female, Read-across, Oral)
LD50 dermal rabbit	> 10 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal)

#### methylethyl ketone peroxide (1338-23-4)

LD50 oral rat	1017 mg/kg
LD50 dermal rat	4000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	1.5 mg/l/4h

Unknown acute toxicity (CLP) - SDS : 1.86% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

Skin corrosion/irritation : Causes severe skin burns.  
Serious eye damage/irritation : Causes serious eye damage.  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : May cause drowsiness or dizziness.

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ethyl acetate (141-78-6)	
STOT-single exposure	May cause drowsiness or dizziness.

ethyl methyl ketone (78-93-3)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

ethyl acetate (141-78-6)	
LOAEL (oral, rat, 90 days)	3600 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)
NOAEL (oral, rat, 90 days)	900 mg/kg bodyweight Animal: rat, Guideline: EPA OTS 795.2600 (Subchronic Oral Toxicity Test)

Aspiration hazard : Not classified

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Viscosity, kinematic	< 0.5 mm <sup>2</sup> /s

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Not classified

ethyl acetate (141-78-6)	
LC50 - Fish [1]	230 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	154 mg/l (48 h, Daphnia magna, Literature)
NOEC (chronic)	2.4 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

ethyl methyl ketone (78-93-3)	
LC50 - Fish [1]	2993 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	308 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	1972 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	2029 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	1972 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

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### 12.2. Persistence and degradability

#### REFACE SPRAYABLE FILLER HARDENER

Persistence and degradability	Not established.
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#### ethyl acetate (141-78-6)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.293 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.69 g O <sub>2</sub> /g substance
ThOD	1.82 g O <sub>2</sub> /g substance

#### ethyl methyl ketone (78-93-3)

Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.03 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.31 g O <sub>2</sub> /g substance
ThOD	2.44 g O <sub>2</sub> /g substance

#### methylethyl ketone peroxide (1338-23-4)

Persistence and degradability	Readily biodegradable in water.
ThOD	1.816 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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#### ethyl acetate (141-78-6)

BCF - Fish [1]	30 (3 day(s), Leuciscus idus, Static system, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	0.68 (Experimental value, EPA OPPTS 830.7560, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

#### ethyl methyl ketone (78-93-3)

Partition coefficient n-octanol/water (Log Pow)	0.3 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 40 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

#### methylethyl ketone peroxide (1338-23-4)

BCF - Other aquatic organisms [1]	13 (Estimated value)
Partition coefficient n-octanol/water (Log Pow)	0.914 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

### 12.4. Mobility in soil

#### ethyl acetate (141-78-6)

Surface tension	0.024 N/m (20 °C)
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Ecology - soil	Low potential for adsorption in soil.
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### ethyl methyl ketone (78-93-3)

Surface tension	0.024 N/m (20 °C)
Partition coefficient n-octanol/water (Log Koc)	1.53 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil. Slightly harmful to plants.

### methylethyl ketone peroxide (1338-23-4)

Ecology - soil	No (test)data on mobility of the substance available.
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## 12.5. Results of PBT and vPvB assessment

Component	
ethyl acetate (141-78-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
methylethyl ketone peroxide (1338-23-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
ethyl methyl ketone (78-93-3)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## 12.6. Endocrine disrupting properties

No additional information available

## 12.7. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Additional information : Flammable vapours may accumulate in the container.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

### 14.1. UN number or ID number

UN-No. (ADR) : UN 3105  
UN-No. (IMDG) : UN 3105  
UN-No. (IATA) : UN 3105  
UN-No. (ADN) : UN 3105  
UN-No. (RID) : UN 3105

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : ORGANIC PEROXIDE TYPE D, LIQUID  
Proper Shipping Name (IMDG) : ORGANIC PEROXIDE TYPE D, LIQUID  
Proper Shipping Name (IATA) : Organic peroxide type d, liquid  
Proper Shipping Name (ADN) : ORGANIC PEROXIDE TYPE D, LIQUID  
Proper Shipping Name (RID) : ORGANIC PEROXIDE TYPE D, LIQUID  
Transport document description (ADR) : UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2, (D)

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Transport document description (IMDG)	: UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2
Transport document description (IATA)	: UN 3105 Organic peroxide type d, liquid, 5.2
Transport document description (ADN)	: UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2
Transport document description (RID)	: UN 3105 ORGANIC PEROXIDE TYPE D, LIQUID, 5.2

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR)	: 5.2
Danger labels (ADR)	: 5.2

:



#### IMDG

Transport hazard class(es) (IMDG)	: 5.2
Danger labels (IMDG)	: 5.2

:



#### IATA

Transport hazard class(es) (IATA)	: 5.2
Danger labels (IATA)	: 5.2

:



#### ADN

Transport hazard class(es) (ADN)	: 5.2
Danger labels (ADN)	: 5.2

:



#### RID

Transport hazard class(es) (RID)	: 5.2
Danger labels (RID)	: 5.2

:



### 14.4. Packing group

Packing group (ADR)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable
Packing group (ADN)	: Not applicable
Packing group (RID)	: Not applicable

### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No

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Other information : No supplementary information available

### 14.6. Special precautions for user

#### Overland transport

Classification code (ADR) : P1  
Special provisions (ADR) : 122, 274  
Limited quantities (ADR) : 125ml  
Excepted quantities (ADR) : E0  
Packing instructions (ADR) : P520  
Mixed packing provisions (ADR) : MP4  
Transport category (ADR) : 2  
Special provisions for carriage - Packages (ADR) : V1  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV15, CV22, CV24  
Special provisions for carriage - Operation (ADR) : S19  
Tunnel restriction code (ADR) : D  
EAC code : 2WE

#### Transport by sea

Special provisions (IMDG) : 122, 274  
Packing instructions (IMDG) : P520  
EmS-No. (Fire) : F-J  
EmS-No. (Spillage) : S-R  
Stowage category (IMDG) : D  
Stowage and handling (IMDG) : SW1  
Segregation (IMDG) : SG35, SG36, SG72  
Properties and observations (IMDG) : Decomposes at elevated temperatures or in a fire. Burns vigorously. Immiscible with water except for acetyl acetone peroxide, tert-butylhydroperoxide and peroxyacetic acid, type D, stabilized. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.

#### Air transport

PCA Excepted quantities (IATA) : E0  
PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA packing instructions (IATA) : 570  
PCA max net quantity (IATA) : 5L  
CAO packing instructions (IATA) : 570  
CAO max net quantity (IATA) : 10L  
Special provisions (IATA) : A20, A150, A802  
ERG code (IATA) : 5L

#### Inland waterway transport

Classification code (ADN) : P1  
Special provisions (ADN) : 122, 274  
Limited quantities (ADN) : 125 ml  
Excepted quantities (ADN) : E0  
Equipment required (ADN) : PP, EX, A  
Ventilation (ADN) : VE01  
Number of blue cones/lights (ADN) : 0

#### Rail transport

Classification code (RID) : P1  
Special provisions (RID) : 122, 274  
Limited quantities (RID) : 125ml  
Excepted quantities (RID) : E0  
Packing instructions (RID) : P520  
Mixed packing provisions (RID) : MP4  
Transport category (RID) : 2  
Special provisions for carriage – Packages (RID) : W7  
Special provisions for carriage - Loading, unloading and handling (RID) : CW22, CW24, CW29  
Colis express (express parcels) (RID) : CE6  
Hazard identification number (RID) : 539

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### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

VOC content : 539 g/l

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level



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NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Org. Perox. A	Organic Peroxides, Type A
Org. Perox. D	Organic Peroxides, Type D
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour.
H240	Heating may cause an explosion.
H242	Heating may cause a fire.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
EUH066	Repeated exposure may cause skin dryness or cracking.

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