SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830

Grip ALL Solvent Based

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

1.1. Product identifier

Product name : Grip ALL Solvent Based
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture

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

1.2.1 Relevant identified uses

Adhesive

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Directa UK Ltd
Cold Norton
Essex
CM3 6UA

Tel: 01621 828882
Email: head.office@directa.co.uk

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Flam. Liq.	category 2	H225: Highly flammable liquid and vapour.
Skin Irrit.	category 2	H315: Causes skin irritation.
Eye Irrit.	category 2	H319: Causes serious eye irritation.
STOT SE	category 3	H336: May cause drowsiness or dizziness.
Aquatic Chronic	category 2	H411: Toxic to aquatic life with long lasting effects.

2.2. Label elements

Contains: ethyl acetate; butanone; hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane.

Signal word Danger

H-statements

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

P-statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves, protective clothing and eye protection/face protection.

P271	Use only outdoors or in a well-ventilated area.
P264	Wash hands thoroughly after handling.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulation.

Supplemental information

EUH208	Contains: rosin. May produce an allergic reaction.

2.3. Other hazards

Gas/vapour spreads at floor level: ignition hazard

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
ethyl acetate 01-2119475103-46	141-78-6 205-500-4	3%<C<10%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Constituent
butanone 01-2119457290-43	78-93-3 201-159-0	10%<C<20%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	(1)(2)(10)	Constituent
zinc oxide 01-2119463881-32	1314-13-2 215-222-5	0.1%<C<1%	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	(1)(2)	Constituent
2,6-di-tert-butyl-p-cresol 01-2119480433-40	128-37-0 204-881-4	0.1%<C<1%	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	(1)(2)	Constituent
colophony 01-2119480418-32	8050-09-7 232-475-7	0.1%<C<1%	Skin Sens. 1; H317	(1)(2)	Constituent
hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane 01-2119475514-35	92128-66-0	10%<C<20%	Flam. Liq. 2; H225 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411	(1)(10)	Constituent
4-tert-butylphenol 01-2119489419-21	98-54-4 202-679-0	0.1%<C<1%	Repr. 2; H361f Eye Dam. 1; H318 Skin Irrit. 2; H315 Aquatic Chronic 1; H410	(1)(2)	Constituent

(1) For H-statements in full: see heading 16
(2) Substance with a Community workplace exposure limit
(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Wash immediately with lots of water. Take victim to a doctor if irritation persists.

After eye contact:

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Rinse mouth with water. Do not induce vomiting. Consult a doctor/medical service if you feel unwell.

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

4.2.1 Acute symptoms

After inhalation:

EXPOSURE TO HIGH CONCENTRATIONS: Central nervous system depression. Dizziness. Narcosis. Mental confusion. ON CONTINUOUS EXPOSURE/CONTACT: Slight irritation.

After skin contact:

Tingling/irritation of the skin. ON CONTINUOUS EXPOSURE/CONTACT: Dry skin.

After eye contact:
Irritation of the eye tissue.
After ingestion:
No effects known.

4.2.2 Delayed symptoms
No effects known.

4.3. Indication of any immediate medical attention and special treatment needed
If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1. Extinguishing media
5.1.1 Suitable extinguishing media:
Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.
Major fire: Class B foam (not alcohol-resistant).

5.1.2 Unsuitable extinguishing media:
Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.
Major fire: Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture
Upon combustion CO and CO2 are formed (carbon monoxide - carbon dioxide).

5.3. Advice for firefighters
5.3.1 Instructions:
If exposed to fire cool the closed containers by spraying with water. Do not move the load if exposed to heat. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

5.3.2 Special protective equipment for fire-fighters:
Gloves. Protective goggles. Head/neck protection. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment.

6.1.1 Protective equipment for non-emergency personnel
See heading 8.2

6.1.2 Protective equipment for emergency responders
Gloves. Protective goggles. Head/neck protection. Protective clothing.

Suitable protective clothing
See heading 8.2

6.2. Environmental precautions
Contain released product. Dam up the liquid spill. Try to reduce evaporation. Prevent soil and water pollution. Prevent spreading in sewers. Use appropriate containment to avoid environmental contamination.

6.3. Methods and material for containment and cleaning up
Take up liquid spill into absorbent material, e.g.: sand/earth. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with a soap solution. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections
See heading 13.

SECTION 7: Handling and storage
The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling
Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Observe strict hygiene. Remove contaminated clothing immediately. Do not discharge the waste into the drain. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities
7.2.1 Safe storage requirements:
Storage temperature: 20 °C. Store in a dark area. Store at room temperature. Ventilation at floor level. Meet the legal requirements. Max. storage time: 1 year(s).

7.2.2 Keep away from:
Heat sources, ignition sources, oxidizing agents.

7.2.3 Suitable packaging material:
Tin.

7.2.4 Non suitable packaging material:
No data available

7.3. Specific end use(s)
If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

Butanone	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	200 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	600 mg/m³
	Short time value (Indicative occupational exposure limit value)	300 ppm
	Short time value (Indicative occupational exposure limit value)	900 mg/m³
Ethyl acetate	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	200 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	734 mg/m³
	Short time value (Indicative occupational exposure limit value)	400 ppm

Belgium

2,6-Di-tert-butyl-p-crésol (vapeur et aérosol)	Time-weighted average exposure limit 8 h	2 mg/m³
2-Butanone	Time-weighted average exposure limit 8 h	200 ppm
	Time-weighted average exposure limit 8 h	600 mg/m³
	Short time value	300 ppm
	Short time value	900 mg/m³
Acétate d'éthyle	Time-weighted average exposure limit 8 h	200 ppm
	Time-weighted average exposure limit 8 h	734 mg/m³
	Short time value	400 ppm
	Short time value	1468 mg/m³
Zinc (oxyde de) (fraction alvéolaire)	Time-weighted average exposure limit 8 h	2 mg/m³
	Short time value	10 mg/m³

The Netherlands

2-Butanon	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	197 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	590 mg/m³
	Short time value (Public occupational exposure limit value)	300 ppm
	Short time value (Public occupational exposure limit value)	900 mg/m³
Ethylacetaat	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	734 mg/m³
	Short time value (Public occupational exposure limit value)	1468 mg/m³

France

2,6-Di-tert-butyl-p-crésol	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	10 mg/m³
Acétate d'éthyle	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	400 ppm
	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1400 mg/m³
Colophane (produits de décomposition des baguettes de soudure, exprimés en aldéhyde formique)	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	0.1 mg/m³
Méthyléthylcétone	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	200 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	600 mg/m³
	Short time value (VRC: Valeur réglementaire contraignante)	300 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	900 mg/m³
Zinc (oxyde de, fumées)	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	5 mg/m³
Zinc (oxyde de, poussières)	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	10 mg/m³

Germany

2,6-Di-tert-butyl-p-kresol	Time-weighted average exposure limit 8 h (TRGS 900)	10 mg/m³
4-tert-Butylphenol	Time-weighted average exposure limit 8 h (TRGS 900)	0.08 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	0.5 mg/m³
Butanon	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	600 mg/m³

Ethylacetat	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	730 mg/m³

UK

2,6-Di-tert-butyl-p-cresol	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	10 mg/m³
Butan-2-one (methyl ethyl ketone)	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	200 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	600 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	300 ppm
	Short time value (Workplace exposure limit (EH40/2005))	899 mg/m³
Ethyl acetate	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	200 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	734 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	400 ppm
	Short time value (Workplace exposure limit (EH40/2005))	1468 mg/m³
Rosin-based solder flux fume	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.05 mg/m³
	Short time value (Workplace exposure limit (EH40/2005))	0.15 mg/m³

USA (TLV-ACGIH)

Butylated hydroxytoluene (BHT)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	2 mg/m³ (IFV)
Ethyl acetate	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	400 ppm
Methyl ethyl ketone (MEK)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	200 ppm
	Short time value (TLV - Adopted Value)	300 ppm
Zinc oxide	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	2 mg/m³ (R)
	Short time value (TLV - Adopted Value)	10 mg/m³ (R)

(IFV): Inhalable fraction and vapor
(R): Respirable fraction

b) National biological limit values

If limit values are applicable and available these will be listed below.

Germany

4-tert-Butylphenol (p-tert-Butylphenol) (ptBP) (4-tert-Butylphenol (p-tert-Butylphenol) (nach Hydrolyse))	Urin: expositionsende, bzw. schichtende	2 mg/l	5/2013 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG
Butanon (2-Butanon; Ethylmethylketon) (Butanon (2-Butanon))	Urin: expositionsende, bzw. schichtende	2 mg/l	05/2015 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG

UK

Butan-2-one (butan-2-one)	Urine: post shift	70 µmol/L	

USA (BEI-ACGIH)

Methyl ethyl ketone (MEK)	urine: end of shift	2 mg/L	

8.1.2 Sampling methods

Product name	Test	Number
2-Butanone (MEK) (Methyl ethyl ketone)	NIOSH	2500
2-Butanone (Methyl ethyl ketone)	OSHA	84
2-Butanone (organic and inorganic gases by Extractive FTIR)	NIOSH	3800
2-Butanone (Volatile Organic compounds)	NIOSH	2549
2-Butanone	OSHA	1004
2-Butanone	OSHA	13
ACETONE and METHYL ETHYL KETONE in urine	NIOSH	8319
Di-tert-butyl-p-cresol	OSHA	2108
Ethyl acetate (Volatile Organic compounds)	NIOSH	2549
Ethyl Acetate	NIOSH	1457
Ethyl Acetate	OSHA	7
MEK	NIOSH	8002
Methyl Ethyl Ketone (ketones I)	NIOSH	2555
Methyl Ethyl Ketone	OSHA	16
p-tert-Butylphenol	OSHA	2085
Zinc (Elements)	NIOSH	7300
Zinc (Zn)	NIOSH	7302
Zinc (Zn)	NIOSH	7304
Zinc Oxide	NIOSH	7030
Zinc Oxide	NIOSH	7502
Zinc Oxide	OSHA	ID 121
Zinc Oxide	OSHA	ID 143

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

ethyl acetate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	734 mg/m³	
	Acute systemic effects inhalation	1468 mg/m³	
	Long-term local effects inhalation	734 mg/m³	
	Acute local effects inhalation	1468 mg/m³	
	Long-term systemic effects dermal	63 mg/kg bw/day	

butanone

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	600 mg/m³	
	Long-term systemic effects dermal	1161 mg/kg bw/day	

zinc oxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	5 mg/m³	
	Long-term local effects inhalation	0.5 mg/m³	
	Long-term systemic effects dermal	83 mg/kg bw/day	

2,6-di-tert-butyl-p-cresol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	3.5 mg/m³	
	Long-term systemic effects dermal	0.5 mg/kg bw/day	

colophony

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	10 mg/m³	
	Long-term systemic effects dermal	2.131 mg/kg bw/day	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2035 mg/m³	
	Long-term systemic effects dermal	773 mg/kg bw/day	

4-tert-butylphenol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	0.5 mg/m³	
	Long-term systemic effects dermal	0.071 mg/kg bw/day	

DNEL/DMEL - General population

ethyl acetate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	367 mg/m³	
	Acute systemic effects inhalation	734 mg/m³	
	Long-term local effects inhalation	367 mg/m³	
	Acute local effects inhalation	734 mg/m³	
	Long-term systemic effects dermal	37 mg/kg bw/day	
	Long-term systemic effects oral	4.5 mg/kg bw/day	

butanone

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	106 mg/m³	
	Long-term systemic effects dermal	412 mg/kg bw/day	
	Long-term systemic effects oral	31 mg/kg bw/day	

zinc oxide

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	2.5 mg/m³	
	Long-term systemic effects dermal	83 mg/kg bw/day	
	Long-term systemic effects oral	0.83 mg/kg bw/day	

2,6-di-tert-butyl-p-cresol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	0.25 mg/kg bw/day	
	Long-term systemic effects inhalation	0.86 mg/m³	
	Long-term systemic effects oral	0.25 mg/kg bw/day	

colophony

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects dermal	1.065 mg/kg bw/day	
	Long-term systemic effects oral	1.065 mg/kg bw/day	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term local effects inhalation	608 mg/m³	
	Long-term systemic effects dermal	699 mg/kg bw/day	
	Long-term systemic effects oral	699 mg/kg bw/day	

4-tert-butylphenol

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	0.09 mg/m³	
	Long-term systemic effects dermal	0.026 mg/kg bw/day	
	Long-term systemic effects oral	0.026 mg/kg bw/day	

PNEC

ethyl acetate

Compartments	Value	Remark
Fresh water	0.24 mg/l	
Aqua (intermittent releases)	1.65 mg/l	
Marine water	0.024 mg/l	
STP	650 mg/l	
Fresh water sediment	1.15 mg/kg sediment dw	
Marine water sediment	0.115 mg/kg sediment dw	
Soil	0.148 mg/kg soil dw	
Oral	0.2 g/kg food	

butanone

Compartments	Value	Remark
Fresh water	55.8 mg/l	
Marine water	55.8 mg/l	
Aqua (intermittent releases)	55.8 mg/l	
STP	709 mg/l	
Fresh water sediment	284.74 mg/kg sediment dw	
Marine water sediment	284.7 mg/kg sediment dw	
Soil	22.5 mg/kg soil dw	
Food	1000 mg/kg food	

zinc oxide

Compartments	Value	Remark
Fresh water	20.6 µg/l	
Marine water	6.1 µg/l	
STP	100 µg/l	
Fresh water sediment	117.8 mg/kg sediment dw	
Marine water sediment	56.5 mg/kg sediment dw	
Soil	35.6 mg/kg soil dw	

2,6-di-tert-butyl-p-cresol

Compartments	Value	Remark
Fresh water	0.199 µg/l	
Marine water	0.02 µg/l	
Aqua (intermittent releases)	1.99 µg/l	
STP	0.17 mg/l	
Fresh water sediment	99.6 µg/kg sediment dw	
Salt water	9.96 µg/kg sediment dw	
Soil	47.69 µg/kg soil dw	
Oral	8.33 mg/kg food	

colophony

Compartments	Value	Remark
Fresh water	0.002 mg/l	
Aqua (intermittent releases)	0.016 mg/l	
STP	1000 mg/l	
Fresh water sediment	0.007 mg/kg sediment dw	
Marine water sediment	0.001 mg/kg sediment dw	

4-tert-butylphenol

Compartments	Value	Remark
Fresh water	0.01 mg/l	
Marine water	0.001 mg/l	
Fresh water (intermittent releases)	0.048 mg/l	
STP	1.5 mg/l	
Fresh water sediment	0.27 mg/kg sediment dw	
Marine water sediment	0.027 mg/kg sediment dw	
Soil	0.25 mg/kg soil dw	
Oral	46.67 mg/kg food	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe strict hygiene. Do not eat, drink or smoke during work.

a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

b) Hand protection:

Gloves.

c) Eye protection:

Safety glasses.

d) Skin protection:

Protective clothing.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Viscous
Odour	Characteristic odour
Odour threshold	No data available
Colour	Variable in colour, depending on the composition
Particle size	No data available
Explosion limits	No data available
Flammability	Highly flammable liquid and vapour.
Log Kow	Not applicable (mixture)
Dynamic viscosity	No data available
Kinematic viscosity	No data available
Melting point	No data available
Boiling point	No data available
Evaporation rate	No data available
Relative vapour density	Not applicable
Vapour pressure	< 1100 hPa ; 50 °C
Solubility	Water ; insoluble
	Organic solvents ; soluble
Relative density	1.2
Decomposition temperature	No data available
Auto-ignition temperature	No data available
Flash point	< 23 °C
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	No data available

9.2. Other information

Absolute density	1220 kg/m³

SECTION 10: Stability and reactivity

10.1. Reactivity

May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard. No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat. Insufficient ventilation: keep naked flames/sparks away. Insufficient ventilation: use spark-/explosionproof appliances and lighting system.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Upon combustion CO and CO2 are formed (carbon monoxide - carbon dioxide).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

Grip ALL Solvent Based

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethyl acetate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	10200 mg/kg bw		Rat (female)	Experimental value	
Dermal	LD50	24 hour cuff method	> 20000 mg/kg bw	24 h	Rabbit (male)	Experimental value	
Inhalation (vapours)	LC0	Equivalent to OECD 403	29.3 mg/l	4 h	Rat	Experimental value	

butanone

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 423	2193 mg/kg bw		Rat (male / female)	Read-across	
Dermal	LD50	Equivalent to OECD 402	> 10 ml/kg bw	24 h	Rabbit (male)	Experimental value	
Inhalation (vapours)						Data waiving	

zinc oxide

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	> 5000 mg/kg		Rat (male / female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation (dust)	LC50	Equivalent to OECD 403	> 5.7 mg/l	4 h	Rat (male / female)	Experimental value	

2,6-di-tert-butyl-p-cresol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	> 6000 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	

colophony

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Other	2800 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation						Data waiving	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50		> 5840 mg/kg bw		Rat (male / female)	Read-across	
Dermal	LD50		> 2800 mg/kg bw	24 week(s)	Rat (male / female)	Similar product	
Inhalation (vapours)	LC50		> 25.2 mg/l	4 h	Rat (male / female)	Experimental value	

4-tert-butylphenol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 401	> 2000 mg/kg		Rat (male / female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 16000 mg/kg bw	24 h	Rabbit (male / female)	Experimental value	
Inhalation (dust)	LC50	Equivalent to OECD 403	> 5.6 mg/l	4 h	Rat (male / female)	Experimental value	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

Grip ALL Solvent Based

No (test)data on the mixture available

Classification is based on the relevant ingredients

ethyl acetate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Slightly irritating	Equivalent to OECD 405		1; 24; 48; 72 hrs; 7; 14; 21 days	Rabbit	Experimental value	Single treatment
Eye	Irritating; category 2					Annex VI	
Skin	Slightly irritating	Equivalent to OECD 404	24 h	24; 48; 72 hours	Rabbit	Experimental value	

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

butanone

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	Equivalent to OECD 405		24; 72 hours	Rabbit	Experimental value	Single exposure
Skin	Not irritating	OECD 404	4 h	4; 24; 48; 72 hours	Rabbit	Read-across	

zinc oxide

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405	24 h	24; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	OECD 404	24 h	24 hours	Rabbit	Experimental value	
Not applicable (in vitro test)	Not corrosive	OECD 431	3 minutes	24; 72 hours	Reconstructed human epidermis	Experimental value	

2,6-di-tert-butyl-p-cresol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	OECD 404		24; 72 hours	Rabbit	Experimental value	

colophony

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Not irritating	OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating				Rabbit	Read-across	
Skin	Irritating	Equivalent to OECD 404	4 h	24; 48; 72 hours	Rabbit	Experimental value	

4-tert-butylphenol

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Serious eye damage	Equivalent to OECD 405	1 seconds	1; 24; 48; 72 hours	Rabbit	Experimental value	Single treatment
Skin	Highly irritating	OECD 404	4 h	1; 24; 48; 72 hours	Rabbit	Experimental value	

Conclusion

Causes skin irritation.

Causes serious eye irritation.

Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

Grip ALL Solvent Based

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethyl acetate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Intradermal	Not sensitizing	OECD 406		24; 48 hours	Guinea pig (female)	Experimental value	

butanone

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406		24; 48 hours	Guinea pig (female)	Experimental value	

zinc oxide

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (female)	Experimental value	
Skin	Not sensitizing	Human observation	2 days (continuous)	72 hours	Human	Experimental value	

2,6-di-tert-butyl-p-cresol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Guinea pig maximisation test		24; 48 hours	Guinea pig (male / female)	Experimental value	
Skin	Not sensitizing	Human observation			Human (male / female)	Experimental value	

colophony

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Human observation			Human (male / female)	Experimental value	
Skin	Sensitizing; category 1					Annex VI	

Classification of this substance according to Annex VI is debatable as it does not correspond to the conclusion from the test

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	Equivalent to OECD 406		24; 48 hours	Guinea pig (male / female)	Read-across	

4-tert-butylphenol

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (male)	Experimental value	

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

Grip ALL Solvent Based

No (test)data on the mixture available

Classification is based on the relevant ingredients

ethyl acetate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	EPA OTS 795.2600	900 mg/kg bw/day	General	No effect	90 day(s) - 92 day(s)	Rat (male / female)	Experimental value
Oral (stomach tube)	LOAEL	EPA OTS 795.2600	3600 mg/kg bw/day	General	Body weight, organ weight, food consumption	90 day(s) - 92 day(s)	Rat (male / female)	Experimental value
Inhalation	NOEC	EPA OTS 798.2450	350 ppm	General	No adverse systemic effects	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation			STOT SE cat.3		Drowsiness, dizziness			Annex VI

butanone

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral								Data waiving
Dermal								Data waiving
Inhalation (vapours)	NOAEC	Equivalent to OECD 413	5041 ppm		No effect	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation (vapours)			STOT SE cat.3	Central nervous system	Drowsiness, dizziness			Annex VI

zinc oxide

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOEL	OECD 408	3000 ppm		No effect	13 weeks (daily)	Rat (male / female)	Read-across
Inhalation (aerosol)	NOAEL	OECD 413	1.5 mg/m³ air		No effect	13 weeks (6h / day, 5 days / week)	Rat (male)	Experimental value

2,6-di-tert-butyl-p-cresol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL		25 mg/kg bw/day		No effect		Rat (male / female)	Experimental value

colophony

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (diet)	NOAEL	Subchronic toxicity test	0.2 %		No effect	90 day(s)	Rat (male / female)	Inconclusive, insufficient data
Dermal								Data waiving
Inhalation								Data waiving

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Inhalation (vapours)	NOAEC		4200 mg/m³ air		No effect	3 days (8h / day)	Rat (male)	Experimental value
Inhalation (vapours)	NOAEC		14000 mg/m³		no neurotoxic effects	3 days (8h / day)	Rat (male)	Experimental value
			STOT SE cat.3		Drowsiness, dizziness			Annex VI

4-tert-butylphenol

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral (stomach tube)	NOAEL	EPA OPPTS 870.3100	200 mg/kg bw/day		No effect	90 days (1x / day)	Rat (male / female)	Experimental value
Oral (diet)	LOAEL	EPA OPPTS 870.3100	150 mg/kg bw/day	Liver	Morphological transformation	14 week(s)	Rat (male / female)	Experimental value
Dermal								Data waiving
Inhalation								Data waiving

Conclusion

May cause drowsiness or dizziness.
Not classified for subchronic toxicity

Mutagenicity (in vitro)

Grip ALL Solvent Based

No (test)data on the mixture available
Judgement is based on the relevant ingredients

ethyl acetate

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 473	Chinese hamster ovary (CHO)	No effect	Experimental value	
Negative	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

butanone

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

zinc oxide

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

2,6-di-tert-butyl-p-cresol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	Ames test	Bacteria (S.typhimurium)	No effect	Experimental value	
Negative	Equivalent to OECD 473	Chinese hamster ovary (CHO)	No effect	Experimental value	
Negative	Equivalent to OECD 479	Chinese hamster ovary (CHO)	No effect	Experimental value	

colophony

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	
Negative	OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	
Negative	OECD 473	Human lymphocytes	No effect	Experimental value	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	OECD 476		No effect	Read-across	

4-tert-butylphenol

Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	

Conclusion

Not classified for mutagenic or genotoxic toxicity

Mutagenicity (in vivo)

Grip ALL Solvent Based

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethyl acetate

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD 474		Mouse (male)		Experimental value

butanone

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD 474		Mouse (male / female)		Experimental value

zinc oxide

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	OECD 474		Mouse (male)	Bone marrow	Experimental value

2,6-di-tert-butyl-p-cresol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Chromosome aberration assay	8 weeks (daily)	Mouse (male)		Experimental value
Negative	Micronucleus test		Mouse (female)	Bone marrow	Experimental value

4-tert-butylphenol

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Oral (stomach tube))	OECD 474		Mouse (male / female)	Bone marrow	Experimental value

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

Grip ALL Solvent Based

No (test)data on the mixture available

Judgement is based on the relevant ingredients

2,6-di-tert-butyl-p-cresol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral		Carcinogenic toxicity study		104 week(s)	Rat (male / female)	No carcinogenic effect		Experimental value

colophony

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation								Data waiving
Dermal								Data waiving
Oral								Data waiving

4-tert-butylphenol

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Unknown								Data waiving

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

Grip ALL Solvent Based

No (test)data on the mixture available

Judgement is based on the relevant ingredients

ethyl acetate

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Equivalent to OECD 414	> 3600 mg/kg bw/day	7 day(s)	Mouse	No effect	Foetus	Read-across
Maternal toxicity	NOAEL	Equivalent to OECD 414	2200 mg/kg bw/day	8 days (gestation, daily) - 14 days (gestation, daily)	Mouse	No effect		Read-across
	LOAEL	Equivalent to OECD 414	3600 mg/kg bw/day	8 days (gestation, daily) - 14 days (gestation, daily)	Mouse	Mortality	General	Read-across
Effects on fertility	NOAEL	Equivalent to OECD 416	20700 mg/kg bw/day	13 weeks (6h / day, 5 days / week)	Mouse (male / female)	No effect		Experimental value

butanone

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	Equivalent to OECD 414	1002 ppm	10 days (7h / day)	Rat	No effect	Foetus	Experimental value
Maternal toxicity	NOAEC	Equivalent to OECD 414	1002 ppm	10 days (7h / day)	Rat (female)	No effect		Experimental value
Effects on fertility	NOAEL	Equivalent to OECD 416	1644 mg/kg bw/day - 1771 mg/kg bw/day		Rat (male / female)	No effect		Read-across

zinc oxide

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	OECD 414	7.5 mg/kg bw/day	14 days (6h / day)	Rat	No effect	Foetus	Experimental value
Maternal toxicity	NOAEC	OECD 414	7.5 mg/kg bw/day	14 days (6h / day)	Rat	No effect		Experimental value
Effects on fertility	NOAEL (F1)	Equivalent to OECD 416	7.5 mg/kg bw/day	22 weeks (daily)	Rat (male / female)	No effect		Read-across

2,6-di-tert-butyl-p-cresol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL	Equivalent to OECD 414	375 mg/kg bw/day		Rat (female)	No effect	Foetus	Experimental value
Maternal toxicity	NOAEL	Equivalent to OECD 414	93.5 mg/kg bw/day		Rat (female)	No effect		Experimental value
Effects on fertility	NOAEL		500 mg/kg bw/day		Rat (female)	No effect		Experimental value
	NOAEL		100 mg/kg bw/day		Rat (male)	No effect		Experimental value

colophony

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEL (F1)	OECD 421	3000 ppm	30 day(s) - 45 day(s)	Rat (male / female)	No effect		Experimental value
Effects on fertility	NOAEL (P)	OECD 421	3000 ppm	30 day(s) - 45 day(s)	Rat (male / female)	No effect		Experimental value

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC		≥ 1200 ppm	10 days (6h / day)	Rat	No effect		Read-across
Maternal toxicity	NOAEL	Equivalent to OECD 414	900 ppm	10 days (6h / day)	Rat (female)	No effect		Read-across
Effects on fertility	NOAEL (P/F1)	Equivalent to OECD 416	9000 ppm		Rat (male / female)	No effect		Read-across

4-tert-butylphenol

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (stomach tube))	NOAEL	OECD 414	≥ 300 mg/kg bw/day	10 day(s)	Rat	No effect		Experimental value
Maternal toxicity (Oral (stomach tube))	NOAEL	OECD 414	75 mg/kg bw/day	10 day(s)	Rat	No effect		Experimental value
Effects on fertility (Oral (diet))	NOEL	OECD 416	800 ppm		Rat (male / female)	No effect		Experimental value

Conclusion

Not classified for reprotoxic or developmental toxicity

Toxicity other effects

Grip ALL Solvent Based

No (test)data on the mixture available

ethyl acetate

Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
			Skin	Dehydration	6 days (1x / day)	Human	Experimental value Skin
			Skin	Skin dryness or cracking			Literature Skin

butanone

Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
	Equivalent to OECD 404		Skin	Skin dryness or cracking			Read-across Skin

Chronic effects from short and long-term exposure

Grip ALL Solvent Based

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

SECTION 12: Ecological information

12.1. Toxicity

Grip ALL Solvent Based

No (test)data on the mixture available

Classification of the mixture is based on the relevant ingredients and on application of the summation method

ethyl acetate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	US EPA	230 mg/l	96 h	Pimephales promelas	Flow-through system	Fresh water	Experimental value
Acute toxicity crustacea	EC50		154 mg/l	48 h	Daphnia magna			Literature
Toxicity algae and other aquatic plants	NOEC	OECD 201	> 100 mg/l	72 h	Scenedesmus subspicatus	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	ECOSAR v1.00	6.3 mg/l	32 day(s)	Pisces		Fresh water	QSAR
	NOEC	OECD 210	< 9.65 mg/l	32 day(s)	Pimephales promelas	Flow-through system	Fresh water	Experimental value; Growth rate
Long-term toxicity aquatic crustacea	NOEC	Equivalent to OECD 211	2.4 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	EC50		5870 mg/l	15 minutes	Photobacterium phosphoreum	Static system	Salt water	Experimental value; Inhibition

butanone

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	2993 mg/l	96 h	Pimephales promelas	Static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	OECD 202	308 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	1972 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; GLP
Long-term toxicity fish								Data waiving
Long-term toxicity aquatic crustacea								Data waiving
Toxicity aquatic micro-organisms	Toxicity threshold	DIN 38412-8	1150 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value

zinc oxide

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	ASTM E729-88	0.169 mg/l	96 h	Oncorhynchus mykiss	Static system	Fresh water	Read-across; Zinc ion
Acute toxicity crustacea	EC50	OECD 202	1 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Zinc ion
Toxicity algae and other aquatic plants	IC50	OECD 201	0.136 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Zinc ion
	NOEC	OECD 201	0.024 mg/l	3 day(s)	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Zinc ion
Long-term toxicity fish	NOEC	OECD 215	0.039 mg/l	30 day(s)	Oncorhynchus mykiss	Flow-through system	Fresh water	Read-across; Zinc ion
Long-term toxicity aquatic crustacea	NOEC	OECD 211	0.04 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Read-across; Zinc ion
Toxicity aquatic micro-organisms	EC50	OECD 209	> 1000 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; GLP

2,6-di-tert-butyl-p-cresol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC0	EU Method C.1	≥ 0.57 mg/l	96 h	Brachydanio rerio	Semi-static system	Fresh water	Experimental value; GLP
	LC50	ECOSAR v1.00	0.199 mg/l	96 h	Pisces			QSAR
Acute toxicity crustacea	EC50	OECD 202	0.48 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
	NOEC	OECD 202	0.15 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	EC50	ECOSAR v1.00	0.758 mg/l	96 h	Algae			Calculated value
Long-term toxicity fish	NOEC	ECOSAR v1.00	0.041 mg/l		Pisces			Calculated value; Chronic
Long-term toxicity aquatic crustacea	NOEC	OECD 202	0.316 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50		1.7 mg/l	24 h	Tetrahymena pyriformis	Static system	Fresh water	Experimental value

colophony

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	1 mg/l - 10 mg/l	96 h	Brachydanio rerio	Semi-static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EC50	OECD 202	911 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	ErC50	OECD 201	> 1000 mg/l	72 h	Selenastrum capricornutum	Static system	Fresh water	Experimental value; GLP
Toxicity aquatic micro-organisms	EC50	OECD 209	> 10000 mg/l	3 h	Activated sludge	Static system	Fresh water	Experimental value; GLP

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LL50	OECD 203	11.4 mg/l WAF	96 h	Oncorhynchus mykiss	Semi-static system	Fresh water	Experimental value; GLP
Acute toxicity crustacea	EL50	OECD 202	3.0 mg/l WAF	48 h	Daphnia magna	Static system	Fresh water	Experimental value; GLP
Toxicity algae and other aquatic plants	EL50	OECD 201	30 mg/l WAF - 100 mg/l WAF	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOELR		2.045 mg/l	28	Oncorhynchus mykiss		Fresh water	QSAR
Long-term toxicity aquatic crustacea	NOEC	OECD 211	0.17 mg/l WAF	21 day(s)	Daphnia magna	Static system	Fresh water	Read-across
Toxicity aquatic micro-organisms	EL50		35.57 mg/l	48 h	Tetrahymena pyriformis		Fresh water	QSAR; Growth inhibition

4-tert-butylphenol

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	Equivalent to OECD 203	> 1 mg/l	96 h	Oncorhynchus mykiss	Semi-static system	Fresh water	Similar product; Lethal
Acute toxicity crustacea	EC50	OECD 202	4.8 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value; Locomotor effect
Toxicity algae and other aquatic plants	ErC50	OECD 201	14 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Nominal concentration
	NOEC	OECD 201	0.32 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value; Growth rate
Long-term toxicity fish	NOEC	Equivalent to OECD 210	10 µg/l	128 day(s)	Pimephales promelas	Flow-through system	Fresh water	Experimental value; GLP
Long-term toxicity aquatic crustacea	NOEC	Equivalent to OECD 211	0.73 mg/l	21 day(s)	Daphnia magna	Semi-static system	Fresh water	Experimental value; Reproduction
Toxicity aquatic micro-organisms	EC50	Equivalent to OECD 209	> 10 mg/l	3 h	Activated sludge		Fresh water	Experimental value; Respiration

Conclusion

Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

ethyl acetate

Biodegradation water

Method	Value	Duration	Value determination
OECD 301B: CO2 Evolution Test	93.9 %	28 day(s)	Experimental value
OECD 301D: Closed Bottle Test	100 %	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	40 h	500000 /cm³	QSAR

butanone

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D: Closed Bottle Test	98 %; GLP	28 day(s)	Experimental value

2,6-di-tert-butyl-p-cresol

Biodegradation water

Method	Value	Duration	Value determination
OECD 301C: Modified MITI Test (I)	4.5 %	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	7.02 h	1500000 /cm³	Calculated value

Biodegradation soil

Method	Value	Duration	Value determination
	63.82 %	1 day(s)	Experimental value

Half-life water (t1/2 water)

Method	Value	Primary degradation/mineralisation	Value determination
BIOWIN 4.10	37.5 day(s); QSAR	Primary degradation	Calculated value

Half-life soil (t1/2 soil)

Method	Value	Primary degradation/mineralisation	Value determination
EPI Suite	75 day(s)	Primary degradation	Calculated value

Half-life air (t1/2 air)

Method	Value	Primary degradation/mineralisation	Value determination
AOPWIN v1.92	7.018 h	Primary degradation	Calculated value

colophony

Biodegradation water

Method	Value	Duration	Value determination
OECD 301D: Closed Bottle Test	71 %; GLP	28 day(s)	Experimental value

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F: Manometric Respirometry Test	98 %; GLP	28 day(s)	Experimental value

4-tert-butylphenol

Biodegradation water

Method	Value	Duration	Value determination
OECD 301F: Manometric Respirometry Test	60 %; Oxygen consumption	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.92	3.160 h	1.5E6 /cm³	Calculated value

Conclusion

Contains non readily biodegradable component(s)

12.3. Bioaccumulative potential

Grip ALL Solvent Based

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

ethyl acetate

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF		30	3 day(s)	Leuciscus idus	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
EPA OPPTS 830.7560		0.68	25 °C	Experimental value

butanone

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		0.3	40 °C	Experimental value

zinc oxide

Log Kow

Method	Remark	Value	Temperature	Value determination
		1.53		Estimated value

2,6-di-tert-butyl-p-cresol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	OECD 305	230 - 2500	56 day(s)	Cyprinus carpio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
		5.1		Experimental value

colophony

BCF other aquatic organisms

Parameter	Method	Value	Duration	Species	Value determination
BCF	BCFBAF v3.00	56.2			QSAR

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		1.9		Experimental value

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

4-tert-butylphenol

BCF fishes

Parameter	Method	Value	Duration	Species	Value determination
BCF	OECD 305	20 - 48	8 week(s)	Cyprinus carpio	Experimental value

Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		3	23 °C	Experimental value

Conclusion

Contains bioaccumulative component(s)

12.4. Mobility in soil

ethyl acetate

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	51.3 %	0 %	0.27 %	13.3 %	35.3 %	Calculated value

butanone

(log) Koc

Parameter	Method	Value	Value determination
log Koc		1.53	Calculated value

zinc oxide

(log) Koc

Parameter	Method	Value	Value determination
log Koc		2.2	Literature study

2,6-di-tert-butyl-p-cresol

(log) Koc

Parameter	Method	Value	Value determination
Koc	PCKOCWIN v1.66	23030	Calculated value
log Koc	PCKOCWIN v1.66	4.362	Calculated value

Volatility (Henry's Law constant H)

Value	Method	Temperature	Remark	Value determination
8.92E-5 atm m³/mol	SRC HENRYWIN v3.10			Calculated value

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	0.37 %		30.4 %	58.5 %	10.7 %	Calculated value

colophony

(log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PCKOCWIN v2.0	0.8759	QSAR

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

(log) Koc

Parameter	Method	Value	Value determination
			Data waiving

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination
Mackay level III	98 %	0 %	0.9 %	0 %	1.3 %	Calculated value

4-tert-butylphenol

(log) Koc

Parameter	Method	Value	Value determination
log Koc		3.1	QSAR

Conclusion

Contains component(s) with potential for mobility in the soil

12.5. Results of PBT and vPvB assessment

Does not contain component(s) that meet(s) the criteria of PBT and/or vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006.

12.6. Other adverse effects

Grip ALL Solvent Based

Fluorinated greenhouse gases (Regulation (EU) No 517/2014)

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

ethyl acetate

Groundwater

Groundwater pollutant

butanone

Groundwater

Groundwater pollutant

zinc oxide

Groundwater

Groundwater pollutant

colophony

Groundwater

Groundwater pollutant

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).
08 04 09* (wastes from MFSU of adhesives and sealants (including waterproofing products): waste adhesives and sealants containing organic solvents or other hazardous substances). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Incinerate under surveillance with energy recovery. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized waste treatment plant. Do not discharge into drains or the environment.

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).
15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1. UN number

UN number	1133

14.2. UN proper shipping name

Proper shipping name	Adhesives

14.3. Transport hazard class(es)

Hazard identification number	
Class	3
Classification code	F1

14.4. Packing group

Packing group	III
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	yes

14.6. Special precautions for user

Special provisions	
Limited quantities	Combination packagings: not more than 5 liters per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
Specific mention	Viscous liquid with a flash point lower than 23°C, which meets the conditions indicated in 2.2.3.1.4 of ADR

Rail (RID)

14.1. UN number

UN number	1133

14.2. UN proper shipping name

Proper shipping name	Adhesives

14.3. Transport hazard class(es)

Hazard identification number	33
Class	3
Classification code	F1

14.4. Packing group

Packing group	III
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	yes

14.6. Special precautions for user

Special provisions	
Limited quantities	Combination packagings: not more than 5 liters per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
Specific mention	Viscous liquid with a flash point lower than 23°C, which meets the conditions indicated in 2.2.3.1.4 of RID

Inland waterways (ADN)

14.1. UN number

UN number	1133

14.2. UN proper shipping name

Proper shipping name	Adhesives

14.3. Transport hazard class(es)

Class	3
Classification code	F1

14.4. Packing group

Packing group	III
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	yes

14.6. Special precautions for user

Special provisions	
Limited quantities	Combination packagings: not more than 5 liters per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
Specific mention	Viscous liquid with a flash point lower than 23°C, which meets the conditions indicated in 2.2.3.1.4 of ADN

Sea (IMDG/IMSBC)

14.1. UN number

UN number	1133

14.2. UN proper shipping name

Proper shipping name	adhesives

14.3. Transport hazard class(es)

Class	3

14.4. Packing group

Packing group	III
Labels	3

14.5. Environmental hazards

Marine pollutant	P
Environmentally hazardous substance mark	yes

14.6. Special precautions for user

Special provisions	223
Special provisions	955
Limited quantities	Combination packagings: not more than 5 liters per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
Specific mention	Viscous liquid with a flash point lower than 23°C, which meets the conditions indicated in 2.3.2.2 of IMDG

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Annex II of MARPOL 73/78	Not applicable, based on available data

Air (ICAO-TI/IATA-DGR)

14.1. UN number

UN number	1133

14.2. UN proper shipping name

Proper shipping name	Adhesives

14.3. Transport hazard class(es)

Class	3

14.4. Packing group

Packing group	III
Labels	3

14.5. Environmental hazards

Environmentally hazardous substance mark	yes

14.6. Special precautions for user

Special provisions	A3
Specific mention	Viscous liquid with a flash point lower than 23°C, which meets the conditions indicated in 3.3.3.1 of ICAO

Passenger and cargo transport

Limited quantities: maximum net quantity per packaging	10 L

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
36 %	

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· ethyl acetate · butanone · hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: “Keep lamps filled with this liquid out of the reach of children”; and, by 1 December 2010, “Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life- threatening lung damage”; b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: “Just a sip of grill lighter may lead to life threatening lung damage”; c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010. 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled H304, intended for supply to the general public. 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'
· ethyl acetate · butanone · hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.	1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following: — metallic glitter intended mainly for decoration, — artificial snow and frost, — “whoopee” cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs.

		2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: "For professional users only". 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC. 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

National legislation Belgium

Grip ALL Solvent Based

No data available

National legislation The Netherlands

Grip ALL Solvent Based

No data available

butanone

Huidopname (wettelijk)	2-Butanon; H

4-tert-butylphenol

SZW - Lijst van voor de voortplanting giftige stoffen (vruchtbaarheid)	4-tert-butylfenol; 2; Suspected of damaging fertility.

National legislation France

Grip ALL Solvent Based

No data available

butanone

Risque de pénétration percutanée	Méthyléthylcétone; PP

National legislation Germany

Grip ALL Solvent Based

WGK	2; Classification water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4)

ethyl acetate

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	Ethylacetat; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

butanone

TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	Butanon; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden
Hautresorptive Stoffe	Butanon; H; Hautresorptiv

zinc oxide

TA-Luft	5.2.1

2,6-di-tert-butyl-p-cresol

TA-Luft	5.2.5/I
TRGS900 - Risiko der Fruchtschädigung	2,6-Di-tert-butyl-p-kresol; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

colophony

TA-Luft	5.2.1

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, < 5% n-hexane

TA-Luft	5.2.5/I

4-tert-butylphenol

TA-Luft	5.2.5/I
Hautresorptive Stoffe	4-tert-Butylphenol; H; Hautresorptiv

National legislation United Kingdom

Grip ALL Solvent Based

No data available

butanone

Skin absorption	Butan-2-one (methyl ethyl ketone); Sk

colophony

Skin Sensitisation	Rosin-based solder flux fume; Sen
Respiratory sensitisation	Rosin-based solder flux fume; Sen

Other relevant data

Grip ALL Solvent Based

No data available

2,6-di-tert-butyl-p-cresol

TLV - Carcinogen	Butylated hydroxytoluene (BHT); A4
IARC - classification	3; Butylated hydroxytoluene (bht)

colophony

Skin Sensitisation	Rosin core solder thermal decomposition products(colophony); SEN; Sensitization
Respiratory Sensitisation	Rosin core solder thermal decomposition products(colophony); SEN; Sensitization

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H-statements referred to under heading 3:

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361f Suspected of damaging fertility.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

M-factor

zinc oxide	1	Acute	ECHA
zinc oxide	1	Chronic	ECHA
2,6-di-tert-butyl-p-cresol	1	Acute	BIG
4-tert-butylphenol	1	Chronic	CLP Annex VI (ATP 13)

The information in this safety data sheet is based on data and samples provided. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. We do not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet has been elaborated for use within the European Union, Switzerland, Iceland, Norway and Lichtenstein. It may be consulted in other countries, where local legislation with regards to the set-up of safety data sheets will take precedence. It is your obligation to verify and apply such local legislation. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your licence agreement or when this is failing the general conditions. All intellectual property rights to this sheet are the property of us and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.