SAFETY DATA SHEET – Part.1

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) 453/2010

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

1.1. Product identifier

Product Name **PermaFyx L274 Kit – Grey**
Part.1 of this document covers the Magma PermaFyx L274 kit – Grey (Resin only).

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

Identified Uses Grout resin
Recommended restrictions Reserved for industrial and professional use.

1.3. Details of the supplier of the safety data sheet

Supplier
MHL Group, (Trading name of Meon Ltd.)
Railside
Northarbour Spur
Portsmouth
PO6 3TU
+44 (0) 23 9220 0606
mail@meonuk.com

1.4. Emergency Telephone Number

Emergency telephone +44 (0) 808 118 1922

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 Flam. Liq. 2; H225 Skin Irrit. 2; H315 Skin Sens. 1; H317 STOT SE 3; H335
Classification according to GB CLP

2.2. Label elements

Hazard pictogram

Signal word Danger

H-statement(s)
H225 - Highly flammable liquid and vapour.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H335 - May cause respiratory irritation.
H319 – Causes serious eye irritation.

P-statement(s)
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P312 - Call a POISON CENTER/doctor if you feel unwell.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.

Hazardous component(s) to be indicated on label methyl methacrylate, 2-ethylhexyl acrylate, 2,2'-ethylenedioxydiethyl dimethacrylate

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances
3.2. Mixtures

Hazardous ingredients (GHS)

Ingredient	Identification	Classification	Concentration
methyl methacrylate	CAS Number: 80-62-6 EC-Number: 201-297-1 Index-No.: 607-035-00-6 REACH No.: 01-2119452498-28-XXXX	Flam. Liq. 2; H225 STOT SE 3; H335 Skin Irrit. 2; H315 Skin Sens. 1; H317	40.0 - 45.0 % by weight
2-ethylhexyl acrylate	CAS Number: 103-11-7 EC-Number: 203-080-7 Index-No.: 607-107-00-7 REACH No.: 01-2119453158-37-XXXX	Skin Irrit. 2; H315 Skin Sens. 1; H317 STOT SE 3; H335	20.0 - 25.0 % by weight
aliphatic urethanacrylate	CAS Number: - EC-Number: 934-754-5	Skin Irrit. 2; H315 Eye Irrit. 2; H319	5.0 - 10.0 % by weight
2,2'-ethylenedioxydiethyl dimethacrylate	CAS Number: 109-16-0 EC-Number: 203-652-6 REACH No.: 01-2119969287-21-XXXX	Skin Sens. 1; H317	1.0 - 5.0 % by weight
1,1`-(p-Tolylimino)dipropan-2-ol	CAS Number: 38668-48-3 EC-Number: 254-075-1 REACH No.: 01-2119980937-17-XXXX	Acute Tox. 2; H300 Eye Irrit. 2; H319 Aquatic Chronic 3; H412	0.1 - 1.0 % by weight
N,N-dimethyl-p-toluidine	CAS Number: 99-97-8 EC-Number: 202-805-4 Index-No.: 612-056-00-9 REACH No.: 01-2119937766-23-XXXX	Acute Tox. 3; H331 Acute Tox. 3; H311 Acute Tox. 3; H301 STOT RE 2; H373 Aquatic Chronic 3; H412	0.1 - 1.0 % by weight

SECTION 4: First aid measures

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

4.1. Description of first aid measures

General advice Move out of dangerous area. Take off all contaminated clothing immediately. Do not leave the victim unattended. Show this safety data sheet to the doctor in attendance.

If inhaled Move to fresh air. If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

In case of skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation occurs, get medical advice/attention.

In case of eye contact In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed Rinse mouth. Do NOT induce vomiting. Call a physician immediately.

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

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

Immediate medical attention Treat symptomatically.

SECTION 5: Firefighting measures

Flammable

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

5.1. Extinguishing media

Suitable extinguishing media Carbon dioxide (CO2), Foam, Water spray, Dry powder

Extinguishing media which must not be used for safety reasons High volume water jet

5.2. Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases Violent polymerization may be caused by: Extremes of temperature and direct sunlight. Fire will produce dense black smoke containing hazardous combustion products (See Heading 10). Exposure to decomposition products may be a hazard to health.

5.3. Advice for firefighters

Special protective equipment for firefighting In the event of fire, wear self-contained breathing apparatus.

Additional information on firefighting Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Vapours are heavier than air and may spread along floors. Use personal protective equipment.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated surface thoroughly.
Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

Reference to other sections Disposal considerations See also Section 13.

6.5. Additional information

Other information Treat recovered material as described in the section "Disposal considerations".

SECTION 7: Handling and storage

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions on safe handling

Advice on safe handling Processing may lead to evolution of flammable volatiles. In case of insufficient ventilation, wear suitable respiratory equipment. Keep product and empty container away from heat and sources of ignition.
Handle and open container with care. Avoid contact with skin and eyes.

Precautions Smoking, eating and drinking should be prohibited in the application area. For personal protection see Section 8. Observe label precautions.

Advice on protection against fire and explosion Take precautionary measures against static discharges. Vapours may form explosive mixture with air. Use water spray to cool unopened containers.

7.2. Conditions for safe storage, including any incompatibilities

Storage space and container requirements Store in accordance with the particular national regulations. Keep in a cool, well-ventilated place.
Keep in properly labelled containers. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

TRGS 510 3

7.3. Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

methyl methacrylate

Great Britain				
Long-term exposure value (ppm)	**Long-term exposure value (mg/m³)**	**Short-term exposure value (ppm)**	**Short-term exposure value (mg/m³)**	**Source**
50	208	100	416	EH40/2005 Workplace exposure limits (2011)

Europe			
Long-term exposure value (ppm)	**Short-term exposure value (ppm)**	**Issuing date**	**Source**
50	100	2009/161	DIRECTIVE 2009/161/EU

DNEL

Value	Target group	Exposure route	Exposure frequency	Source
210 mg/m³	Workers	Inhalation	Long term effects, Local	Company data
210 mg/m³	Workers	Inhalation	Long term effects, Systemic	Company data
1.5 mg/cm²	Workers	Skin	Long term effects, Local	Company data
13.67 mg/kg	Workers	Skin	Long term effects, Systemic	Company data
105 mg/m³	Consumers	Inhalation	Long term effects, Local	Company data
74.3 mg/m³	Consumers	Inhalation	Long term effects, Systemic	Company data
1.5 mg/cm²	Consumers	Skin	Long term effects, Local	Company data
8.2 mg/kg	Consumers	Skin	Long term effects, Systemic	Company data
1.5 mg/cm²	Consumers	Skin	Short-term effects, Local	Company data

PNEC

Value	Exposure Route	Source
0.94 mg/l	Fresh water	Company data
0.094 mg/l	Marine water	Company data
5.74 mg/kg	Sediment	Company data
1.47 mg/kg	Soil	Company data

2-ethylhexyl acrylate

DNEL

Value	Target group	Exposure route	Exposure frequency	Source
37.5 mg/m³	Workers	Inhalation	Long term effects, Local	Company data
0.242 mg/cm²	Workers	Skin	Long term effects, Local	Company data
0.242 mg/cm²	Workers	Skin	Short term effects, Local	Company data
4.5 mg/cm²	Consumers	Inhalation	Long term effects, Local	Company data

PNEC

Value	Exposure Route	Source
0.002752 mg/l	Fresh water	Company data
0.000272 mg/l	Seawater	Company data
2.3 mg/l	Wastewater treatment plant	Company data
0.126 mg/kg	Sediment water	Company data
0.126 mg/kg	Sediment seawater	Company data
1 mg/kg	Soil	Company data
0.0023 mg/kg	Intermittent release	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

DNEL

Value	Target group	Exposure route	Exposure frequency	Source
48.5 mg/m³	Workers	Inhalation	Long term effects, Systemic	Company data
13.9 mg/kg	Workers	Dermal exposure	Long term effects, Systemic	Company data
14.5 mg/m³	Consumers	Inhalation	Long term effects, Systemic	Company data
8.33 mg/kg	Consumers	Dermal exposure	Long term effects, Systemic	Company data
8.33 mg/kg	Consumers	Oral	Long term effects, Systemic	Company data

PNEC

Value	Exposure Route	Source
0.164 mg/l	Fresh water	Company data
0.274 mg/kg	Soil	Company data
0.185 mg/kg	Marine sediment	Company data
1.85 mg/kg	Freshwater sediment	Company data
10 mg/l	Wastewater treatment	Company data
0.164 mg/l	Intermittent releases	Company data
0.00164 mg/l	Marine water	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

DNEL

Value	Target group	Exposure route	Exposure frequency	Source
2 mg/m³	Workers	Inhalation	Long term effects	Company data
0.6 mg/kg	Workers	Skin	Long term effects	Company data

PNEC

Value	Exposure Route	Source
199.5 mg/l	Wastewater treatment	Company data
0.0072 mg/kg	Marine water	Company data
0.017 mg/l	Freshwater	Company data

8.2. Exposure controls

General protective and hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and at the end of workday. Use protective skin cream before handling the product. Avoid contact with the skin and the eyes.
Respiratory protection	Vapour during processing may be irritating to the respiratory tract and to the eyes. When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators.
Remarks	*Recommended Filter type: A1, A2 (in case of higher concentration). Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).*
Hand protection	Protective gloves complying with EN 374. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Unsuitable material	*woven fabric, Leather gloves*
Suitable material	*Nitriles*
Material thickness	*0.38 mm*
Break through time	*<25 min*
Eye protection	Tightly fitting safety goggles
Skin and body protection	Wear suitable protective equipment. Long sleeved clothing
Engineering measures	Ensure adequate ventilation, especially in confined areas. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Form	Liquid
Colour	Colourless
Odour	Typically of butyl acrylate
pH	Not applicable.
Remarks	*(non-aqueous)*
Boiling Point (°C)	> 100 °C
Flash Point (°C)	10 °C
Evaporation rate [kg/(s*m²)]	Not determined
Explosion limits (vol. %)	The product itself has not been tested.
	methyl methacrylate
Lower limit	1.7 vol. %
Upper limit	12.5 vol. %
	2-ethylhexyl acrylate
Lower limit	0.9 vol. %
Upper limit	6.4 vol. %

Vapour density	Not determined
Density (g/cm³)	1.0 g/cm³
Water solubility (g/l)	
Remarks	*Insoluble*
Partition coefficient n-octanol /water (log P O/W)	Not determined
Viscosity, dynamic [kg/(m s)]	1.600 mPa.s
Measuring method	Haake-Viscotester
Explosive properties	In use, may form flammable/explosive vapour-air mixture.
Oxidising properties	Not relevant

9.2. Other Information

Ignition temperature (°C)	280 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

10.3. Possibility of hazardous reactions

Hazardous reactions The product is normally supplied in a stabilized form. If the permissible storage period and/or storage temperature is noticeably exceeded, the product may polymerize with heat evolution. Risk of receptacle bursting.

10.4. Conditions to avoid

Conditions to avoid Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Materials to avoid Reacts violently with peroxides. Reducing agents, Strong bases, Amines, Oxidizing agents

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Oral Toxicity

Hazardous ingredients

methyl methacrylate

Oral toxicity (mg/kg)	Test criterion	Test species	Measuring method	Source
>5001	LD50	rat	OECD Test Guideline 401	Company data

2-ethylhexyl acrylate

Oral toxicity (mg/kg)	Test criterion	Test species	Source
4435	LD50	rat	Company data

aliphatic urethanacrylate

Oral toxicity (mg/kg)	Test criterion	Test species	Source
>2001	LD50	rat	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Oral toxicity (mg/kg)	Test criterion	Test species	Remarks	Source
10066	LD50	rat	* 1)	Company data

* 1): Information given is based on data on the components and the toxicology of similar products.

1,1`-(p-Tolylimino)dipropan-2-ol

Oral toxicity (mg/kg)	Test criterion	Test species	Measuring method	Source
26	LD50	rat	OECD Test Guideline 423	Company data

N,N-dimethyl-p-toluidine

Oral toxicity (mg/kg)	Test criterion	Test species	Source
139	LD50	rat	Company data

Dermal Toxicity

Hazardous ingredients

methyl methacrylate

Dermal toxicity (mg/kg)	Test criterion	Test species	Source
>5001	LD50	rabbit	Company data

2-ethylhexyl acrylate

Dermal toxicity (mg/kg)	Test criterion	Test species	Source
7522	LD50	rabbit	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Dermal toxicity (mg/kg)	Test criterion	Test species	Source
>2001	LD50	mouse	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Dermal toxicity (mg/kg)	Test criterion	Test species	Source
2001	LD50	rat	Company data

N,N-dimethyl-p-toluidine

Dermal toxicity (mg/kg)	Test criterion	Test species	Source
>2001	LD50	rabbit	Company data

Inhalation

Hazardous ingredients

2-ethylhexyl acrylate

Inhalative toxicity (mg/l)	Test species	Exposure duration(h)	Source
1.19	rat	8	Company data

N,N-dimethyl-p-toluidine

Inhalative toxicity (mg/l)	Test criterion	Test species	Source
1.4	LD50	rat	Company data

methyl methacrylate

LC50 Inhalation 4h for vapours (mg/l)	Test criterion	Test species	Source
29.8	LC50	rat	Company data

N,N-dimethyl-p-toluidine

LC50 Inhalation 4h for dusts and sprays (mg/l)	Test criterion	Test species	Source
0.8	LC50	rat	Company data

Irritant effect on skin

Hazardous ingredients

methyl methacrylate

Irritant effect on skin	Test species	Source
Irritating	rabbit	Company data

2-ethylhexyl acrylate

Irritant effect on skin	Exposure duration (h)	Test species	Source
Skin irritation	4	rabbit	Company data

aliphatic urethanacrylate

Irritant effect on skin	Source
May cause skin irritation.	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Irritant effect on skin	Source
No skin irritation	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Irritant effect on skin	Source
No skin irritation	Company data

N,N-dimethyl-p-toluidine

Irritant effect on skin	Source
Skin irritation	Company data

Irritant effect on eyes

Hazardous ingredients

methyl methacrylate

Irritant effect on eyes	Test species	Source
Irritant	rabbit	Company data

2-ethylhexyl acrylate

Irritant effect on eyes	Measuring method	Test species	Source
Slightly irritating	OECD Test Guideline 405	rabbit	Company data

aliphatic urethanacrylate

Irritant effect on eyes	Source
Causes serious eye irritation.	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Irritant effect on eyes	Source
No eye irritation	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Irritant effect on eyes	Source
Irritant	Company data

N,N-dimethyl-p-toluidine

Irritant effect on eyes	Source
Eye irritation	Company data

Sensitization

Hazardous ingredients

methyl methacrylate

Sensitization	Test species	Source
Skin sensitization	mouse	Company data

2-ethylhexyl acrylate

Sensitization	Source
Skin sensitization	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Sensitization	Source
Skin sensitizer	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Sensitization	Source
No sensitization responses were observed.	Company data

Carcinogenic effects

Hazardous ingredients

methyl methacrylate

Carcinogenic effects	Test species	Source
Not a carcinogen	rat, mouse	Company data

2-ethylhexyl acrylate

Carcinogenic effects	Source
No known effect.	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Carcinogenic effects	Source
No known effect.	Company data

Mutagenicity

Hazardous ingredients

methyl methacrylate

Mutagenicity	Source
Not mutagenic	Company data

2-ethylhexyl acrylate

Mutagenicity	Source
No known effect.	No known

2,2'-ethylenedioxydiethyl dimethacrylate

Mutagenicity	Source
No known effect.	No known

1,1`-(p-Tolylimino)dipropan-2-ol

Mutagenicity	Source
Negative	Company data

Reproduction toxicity

Hazardous ingredients

methyl methacrylate

Reproduction toxicity	Source
Not toxic to reproduction	Company data

2-ethylhexyl acrylate

Reproduction toxicity	Source
No known effect.	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Reproduction toxicity	Source
No known effect.	Company data

Specific target organ toxicity (single exposure)

Hazardous ingredients

methyl methacrylate

Specific target organ toxicity (single exposure) [mg/kg]	Source
Causes respiratory tract irritation.	Company data

2-ethylhexyl acrylate

Specific target organ toxicity (single exposure) [mg/kg]	Source
Causes respiratory tract irritation.	Company data

Specific target organ toxicity (repeated exposure)

Hazardous ingredients

methyl methacrylate

Specific target organ toxicity (repeated exposure) [mg/kg]	Source
No known effect.	Company data

2-ethylhexyl acrylate

Specific target organ toxicity (repeated exposure) [mg/kg]	Source
No known effect.	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Specific target organ toxicity (repeated exposure) [mg/kg]	Source
No known effect.	Company data

11.2. Additional information

Experience in practice Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Irritating to eyes, respiratory system and skin. Irritating to mucous membranes.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish

Hazardous ingredients

methyl methacrylate

Toxicity to fish (mg/l)	Test criterion	Test species	Exposure Duration	Measuring method	Source
191	LC50	*Oncorhynchus mykiss* (Rainbow trout)	96 h	OECD Test Guideline 203	Company data

2-ethylhexyl acrylate

Toxicity to fish (mg/l)	Test criterion	Test species	Exposure Duration	Measuring method	Source
1.81	LC50	*Oncorhynchus mykiss* (Rainbow trout)	96 h	OECD Test Guideline 203	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Toxicity to fish (mg/l)	Test criterion	Test species	Exposure Duration	Measuring method	Source
16.4	LC50	*Brachydanio rerio* (Zebra fish)	96 h	OECD Test Guideline 203	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Toxicity to fish (mg/l)	Test criterion	Test species	Exposure duration [h]	Source
17	LC50	*Brachydanio rerio* (Zebra fish)	96 h	Company data

N,N-dimethyl-p-toluidine

Toxicity to fish (mg/l)	Test criterion	Source
52	LC50	Company data

Toxicity to daphnia

Hazardous ingredients
methyl methacrylate

Toxicity to daphnia (mg/l)	Test criterion	Test species	Exposure Duration	Measuring method	Source
69	EC50	*Daphnia magna* (Water flea)	48 h	OECD Test Guideline 202	Company data

2-ethylhexyl acrylate

Toxicity to daphnia (mg/l)	Test criterion	Test species	Exposure Duration	Measuring method	Source
1.3	EC50	*Daphnia magna* (Water flea)	48 h	OECD Test Guideline 202	Company data

aliphatic urethanacrylate

Toxicity to daphnia (mg/l)	Test criterion	Test species	Source
>100	LC50	*Daphnia magna* (Water flea)	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Toxicity to daphnia (mg/l)	Test criterion	Test species	Exposure Duration	Source
30.2	EC50	*Daphnia magna* (Water flea)	21 day(s)	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Toxicity to daphnia (mg/l)	Test criterion	Test species	Exposure duration [h]	Source
28.8	EC50	*Daphnia magna* (Water flea)	18 h	Company data

Toxicity to algae

Hazardous ingredients

methyl methacrylate

Toxicity to algae (mg/l)	Test criterion	Test species	Exposure Duration	Measuring method	Source
>110	EC50	*Selenastrum capricornutum* (Green algae)	72 h	OECD Test Guideline 201	Company data

2-ethylhexyl acrylate

Toxicity to algae (mg/l)	Test criterion	Test species	Exposure Duration	Measuring method	Source
1.71	ErC50	*Desmodesmus subspicatus*	72 h	OECD Test Guideline 201	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Toxicity to algae (mg/l)	Test criterion	Test species	Exposure Duration	Measuring method	Source
>101	EC50	*Pseudokirchneriella subcapitata*	72 h	OECD Test Guideline 201	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Toxicity to algae (mg/l)	Test criterion	Test species	Exposure duration [h]	Source
245	EC50	*Desmodesmus subspicatus*	27 h	Company data

NOEC Fish

Hazardous ingredients

methyl methacrylate

NOEC (fish) [mg/l]	Test species	Measuring method	Source
9.4	*Brachydanio rerio* (zebra fish)	OECD Test Guideline 210	Company data

NOEC Daphnia

Hazardous ingredients

methyl methacrylate

NOEC (daphnia) [mg/l]	Test species	Measuring method	Source
37	*Daphnia magna (Water flea)*	OECD Test Guideline 202	Company data

NOEC Algae

Hazardous ingredients

2-ethylhexyl acrylate

NOEC (algae) [mg/l]	Test species	Measuring method	Source
0.45	*Desmodesmus subspicatus*	OECD Test Guideline 201	Company data

12.2. Persistence and degradability

Biodegradability

Hazardous ingredients

methyl methacrylate

Value	Method of analysis	Source
Readily biodegradable.	OECD 301C/ ISO 9408/ EEC 92/69/V, C.4-F	Company data

2-ethylhexyl acrylate

Value	Source
Readily biodegradable.	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Value	Source
Readily biodegradable.	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Value	Source
Poorly biodegradable.	Company data

N,N-dimethyl-p-toluidine

Value	Source
No data available.	Company data

12.3. Bioaccumulative potential

Bioaccumulation

Hazardous ingredients

methyl methacrylate

Value	Source
Does not bioaccumulate.	Company data

2-ethylhexyl acrylate

Value	Source
Bioaccumulation slight, log Pow 4.64	Company data

2,2'-ethylenedioxydiethyl dimethacrylate

Value	Source
Slight	Company data

1,1`-(p-Tolylimino)dipropan-2-ol

Value	Source
No data available	Company data

N,N-dimethyl-p-toluidine

Value	Source
No data available	Company data

12.4. Mobility in Soil

Mobility

Hazardous ingredients

methyl methacrylate

Value	Source
Terrestrial Compartment Not relevant	Company data

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.6. Other adverse effects

Further information on ecology	We have no quantitative data concerning the ecological effects of this product.

12.7. Additional information

SECTION 13: Disposal considerations

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Disposal considerations	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. The following Waste Codes are only suggestions:
Waste code	08 01 11* waste paint and varnish containing organic solvents or other dangerous substances
Uncleaned empty packaging	The return of packaging materials is regulated by the Interseroh system.

SECTION 14: Transport information

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for Air Transport.

	Land transport ADR/RID	**Marine transport IMDG**	**Air transport ICAO/IATA**
14.1. UN number			
UN Number	1263	1263	1263
14.2. UN proper shipping name			
UN proper shipping name		PAINT	Paint
Description of the goods	PAINT	PAINT	PAINT
14.3. Transport hazard class(es)			
Hazard class	3	3	3
14.4. Packing group			
Packing group	III	III	III
Labels			
Risk No.	33		
Category	2		
Factor	3		
Classification Code	F1		
SP 640	640D		
Tunnel restriction code	D/E		

EmS	F-E; S-E
Stowage category	B

14.5. Environmental hazards

14.6. Special precautions for user

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

Transport in bulk according to Annex II of MARPOL and the IBC Code	Not relevant

SECTION 15: Regulatory information

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

Additional regulations	Additionally, observe any national regulations!
GISCODE	RMA10

15.2. Chemical safety assessment

SECTION 16: Other information

Relevant H-phrases

H225 - Highly flammable liquid and vapour.
H300 - Fatal if swallowed.
H301 - Toxic if swallowed.
H311 - Toxic in contact with skin.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H331 - Toxic if inhaled.
H335 - May cause respiratory irritation.
H373 - May cause damage to organs through prolonged or repeated exposure .
H412 - Harmful to aquatic life with long lasting effects.

Wording of the hazard classes

Flam. Liq. - Flammable liquid
STOT SE - Specific target organ toxicity - single exposure
Skin Irrit. - Skin irritation
Skin Sens. - Skin sensitization
Aquatic Chronic - Hazardous to the aquatic environment
Eye Irrit. - Serious eye irritation
Acute Tox. - Acute toxicity
STOT RE - Specific target organ toxicity - repeated exposure

Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 [CLP]	Classification	Evaluation
	Flam. Liq. 2; H225	Calculated
	Skin Irrit. 2; H315	Calculated
	Skin Sens. 1; H317	Calculated
	STOT SE 3; H335	Calculated

Department issuing safety data sheet	Environmental Department
Recommended restrictions	Reserved for industrial and professional use.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET – Part.2

According to Regulation (EC) No 1907/2006, 1272/2008 (CLP) & 2015/830

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

1.1. Product identifier

Product Name	**PermaFyx L274 Kit – Grey**
Product Inclusion	Part.2 of this document covers the Magma PermaFyx L274 Filler only.
Container Size	14kg

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

Identified Uses	Unknown.
Recommended restrictions	Reserved for industrial and professional use.

1.3. Details of the supplier of the safety data sheet

Supplier	MHL Group, (Trading name of Meon Ltd.) Railside Northarbour Spur Portsmouth PO6 3TU +44 (0) 23 9220 0606 mail@meonuk.com

1.4. Emergency Telephone Number

Emergency telephone	+44 (0) 808 118 1922

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP)	Aquatic Chronic; H412

2.2. Label elements

Hazard pictogram	
Signal word	None.
H-statement(s)	H412: Harmful to aquatic life with long lasting effects.
P-statement(s)	P273: Avoid release to the environment.

Further Information:	P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P308+P313: IF exposed or concerned: Get medical advice/attention. P391: Collect spillage. EUH208: Contains dibenzoyl peroxide. May produce an allergic reaction.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredient(s)	CAS No. EC No. Index No.	Classification (EC) 1272/2008	Concentration
Dibenzoyl peroxide	94-36-0 202-327-6 617-008-00-0 01-2119511472-50-XXXX	Org. Perox. B; H241 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	0.1 – 1.0 % by weight

Other substance information

Hazardous ingredient(s)	CAS No. EC No. Index No.	M-Factor- SCL – ATE	Other
Dibenzoyl peroxide	94-36-0 202-327-6 617-008-00-0 01-2119511472-50-XXXX	Acute: 10 Chronic: 10	

SECTION 4: First aid measures

As a general rule, in case of doubt or if symptoms persist, always call a doctor.
NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

General advice	Move out of dangerous area. Take off all contaminated clothing immediately. Do not leave the victim unattended. Show this safety data sheet to the doctor in attendance.
If inhaled	If you feel unwell, seek medical advice (show the label where possible).
In case of skin contact	Wash off immediately with soap and plenty of water. If skin irritation occurs, seek medical advice/attention.
In case of eye contact	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
If swallowed	Rinse mouth. Do NOT induce vomiting. Call a physician immediately.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Carbon dioxide (CO2), Foam, Water spray, Dry powder

Extinguishing media which must not be used for safety reasons High volume water jet

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products formed under fire conditions.

5.3. Advice for firefighters

Special protective equipment for firefighting In the event of a fire, wear self-contaminated breathing apparatus.

Additional information on fire-fighting Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid dust formation. Use personal protective equipment.

6.2. Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Avoid dust formation. Use mechanical handling equipment. Clean contaminated surface thoroughly. Dispose of in accordance with local regulations.

6.4. Reference to other sections

Reference to other sections Disposal considerations see also section 13.

6.5. Additional information

Reference to other sections Treat recovered material as described in the section “Disposal considerations”

SECTION 7: Handling and storage

7.1. Precautions on safe handling

Advice on safe handling Avoid dust formation. Wear personal protective equipment.
Handle and open container with care. Avoid contact with skin and eyes.

Precautions Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8. Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities

Storage space and container requirements	Keep in properly labelled containers. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Storage specification	Store in original container. Keep in dry place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Dibenzoyl peroxide

Ireland		
Long-term exposure value / mg/m3	**Remarks**	**Source**
5	Sens.	Code of Practice for the Safety Health and Welfare at Work (2011)

Great Britain	
Long-term exposure value / mg/m3	**Source**
5	EH40/2005 Workplace exposure limits (2011)

DNEL	**Target Group**	**Exposure route**	**Exposure frequency**	**Source**
11,75 mg/m3	Workers	Inhalation	Long term effects	Company data
6,6 mg/kg	Workers	Dermal Exposure	Long term effects	Company data
2,9 mg/m3	Consumers	Inhalation	Long term effects	Company data
3,3 mg/kg	Consumers	Dermal Exposure	Long term effects	Company data
1,65 mg/kg	Consumers	Oral	Long term effects	Company data

PNEC	**Exposure route**	**Source**
0,000602 mg/l	Freshwater	Company data
0.338 mg/	Freshwater sediment	Company data
0,0000602 mg/l	Marine water	Company data
0,0338 mg/kg	Marine sediment	Company data
0,35 mg/l	Waste water pretreatment	Company data
6,67 mg/kg	Oral	Company data

Dusts non-specific

Ireland		
Long-term exposure value / mg/m3	**Remarks**	**Source**
10	Total inhalable dust	Code of Practice for the Safety Health and Welfare at Work (2011)
4	Respirable dust	Code of Practice for the Safety Health and Welfare at Work (2011)

8.2. Exposure controls

Engineering Controls	Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.
Respiratory protection	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Half mask with a particle filter P2 (EN 143).
Eye Protection	Tightly fitting safety goggles
Hand Protection	Protective gloves complying with EN 374.Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Unsuitable material:	woven fabric, Leather gloves
Suitable material:	Nitriles
Material thickness:	0,38 mm
Break through time	: < 25 min
Skin and body protection	Wear suitable protective equipment. Long sleeved clothing
General protective and hygiene Measures	Do not breathe dust. Avoid contact with the skin and the eyes. Wash hands before breaks and at the end of workday. Use protective skin cream before handling the product. Keep away from food, drink and animal feedingstuffs.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Solid.

9.2. Other Information

Evapouration rate [kg/(s*m^2)]	Not applicable.

SECTION 10: Stability and reactivity

10.4. Conditions to avoid

Conditions to avoid	None under normal processing.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Oral toxicity [mg/kg]
Hazardous ingredients

dibenzoyl peroxide			
	Test criterion	**Note**	**Source**
> 5000 mg/kg	LD50	Rat	Company data

Inhalative toxicity [mg/l]
Hazardous ingredients

dibenzoyl peroxide				
Value	**Test criterion**	**Test species**	**Note**	**Source**
24,3 mg/l	LD50	Rat	OCED Test Guideline	Company data

LC50 Inhalation 4h for dusts and sprays [mg/l]
Hazardous ingredients

dibenzoyl peroxide			
Value	**Test criterion**	**Note**	**Source**
24,3 mg/l	LC50	Rat	Company data

Irritant effect on skin
Hazardous ingredients

dibenzoyl peroxide			
Value	**Test criterion**	**Note**	**Source**
No skin irritation	OECD Test Guideline 404	Rabbit	Company data

Irritant effect on eyes
Hazardous ingredients

dibenzoyl peroxide			
Value	**Test criterion**	**Note**	**Source**
Eye irritation	OECD Test Guideline 405	Rabbit	Company data

Sensitisation
Hazardous ingredients

dibenzoyl peroxide			
Value	**Test criterion**	**Note**	**Source**
Skin sensitisation	OECD TG 429	Mouse	Company data

Mutagenicity
Hazardous ingredients

dibenzoyl peroxide	
Value	**Source**
Did not show mutagenic effects in animal experiments.	Company data

Carcinogenic
Hazardous ingredients

dibenzoyl peroxide	
Value	**Source**
Did not show carcinogenic effects in animal experiments.	Company data

Reproduction toxicity
Hazardous ingredients

dibenzoyl peroxide	
Value	**Source**
No toxicity to reproduction	Company data

Specific target organ toxicity (single exposure) [mg/kg]
Hazardous ingredients

dibenzoyl peroxide	
Value	**Source**
No data available	Company data

Specific target organ toxicity (repeated exposure) [mg/kg]
Hazardous ingredients

dibenzoyl peroxide	
Value	**Source**
Animal testing did not show any hazardous effects.	Company data

11.2. Additional information

Other information (chapter 11.)	No toxicology information available.
Experience in practice	May cause sensitisation by inhalation.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish [mg/l]
Hazardous ingredients

dibenzoyl peroxide					
Value	**Test criterion**	**Test Species**	**Exposure duration [h]**	**Measuring method**	**Source**
0,0602 mg/l	LC50	Oncorhynchus mykiss (rainbow trout)	96h	OECD Test Guideline 203	Company data

Toxicity to daphinia [mg/l]
Hazardous ingredients

dibenzoyl peroxide					
Value	**Test criterion**	**Test Species**	**Exposure duration [h]**	**Measuring method**	**Source**
0,110 mg/l	EC50	Daphnia magna (Water flea)	48h	OECD Test Guideline 202	Company data

Toxicity to algae [mg/l]
Hazardous ingredients

dibenzoyl peroxide					
Value	**Test criterion**	**Test Species**	**Exposure duration [h]**	**Measuring method**	**Source**

0,0711 mg/l	EC50	Pseudokirchneriella subcapitata	OECD Test Guideline 201	72h	Company data

Aquatic toxicity [mg/l]: NOEC Mixture: 0,1426 mg/l

Test criterion	Calculated Guidance on the Application of the CLP Criteria V 5.0 July 207 annex I, 4.1.3.5.2
Remarks	Additivity formula Result Aquatic Chronic 3

12.2. Persistence and degradability

Biodegradability
Hazardous ingredients

Value	Duration	Measuring method	Remarks	Source
Biodegradable. 68 %	28 day(s)	OECD 301D/ EEC 92/69/V, C.4-E	Inherently biodegradable	Company data

12.3. Bioaccumulative potential

Bioaccumulation
Hazardous ingredients

dibenzoyl peroxide	
Value	**Source**
3.2 Bioaccumulation is unlikely	Company data

12.4. Mobility in Soil

Mobility in soil Not known.

12.5. Results of PBT and vPvB assessment

Results of PBT characteristics determination
Hazardous ingredients

dibenzoyl peroxide	
Value	**Source**
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).	Company data

12.6. Other adverse effects

Further information on ecology We have no quantitative data concerning the ecological effects of this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. The following Waste Codes are only suggestions:

Waste Code	06 03 16 metallic oxides other than those mentioned in 06 03 15
Uncleaned empty packaging	The return of packaging materials is regulated by the Interseroh system.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG	Air Transport ICAO/IATA
14.1 UN No.	Not applicable	Not applicable	Not applicable
14.2 Description of goods	Non dangerous good	Non dangerous good	Non dangerous good
14.3 Transport hazard class(es)	Not applicable	Not applicable	Not applicable
14.4 Packaging group	Not applicable	Not applicable	Not applicable
14.5 Environmental hazards	Not applicable	Not applicable	Not applicable
UN proper shipping name	Non dangerous goods	Non dangerous goods	Non dangerous goods

14.6 Special precautions for user

Precautions: No special measures are required.

14.7 Bulk transport by sea according to IMO instruments

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not relevant

SECTION 15: Regulatory information

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

Additional Regulations: Additionally, observe any national regulations.

SECTION 16: Other information

Modifications since last version: Modifications of the previous version are denoted with an asterisk (*).

Relevant H-phrases:
H241: Heating may cause a fire or explosion.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
H412: Harmful to aquatic life with long lasting effects.
EUH208: Contains $dibenzoyl peroxide. May produce an allergic reaction.

Wording of the hazard classes:
Org. Perox.: Organic peroxide
Eye Irrit.: Serious eye irritation
Skin Sens.: Skin sensitization
Aquatic Acute: Hazardous to the aquatic environment
Aquatic Chronic: Hazardous to the aquatic environment

Classification Evaluation: Aquatic Chronic 3; H412 Calculated

Recommended restrictions: Reserved for industrial and professional use.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET – Part.3

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) 453/2010

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

1.1. Product identifier

Product Name	PermaFyx L274 Kit - Grey
Product Inclusion	Part.3 of this document covers the Magma PermaFyx L274 Kit – Grey (catalyst only).
Container Size	80g

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

Identified Uses	Hardener for road repair filler (3 components) Mix only the Catalyst Part B Respect the dosage Part B/hardener indicated by the supplier Professional use only
Uses advised against	No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier	Meon Ltd. Railside Northarbour Spur Portsmouth PO6 3TU +44 (0) 23 9220 0606 mail@meonuk.com

1.4. Emergency Telephone Number

Emergency telephone	+44 (0) 808 118 1922

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to regulation EC1272/2008 and amendments
Classification according to regulation GB CLP
- Organic peroxides. Category D – H242
- Sensitisation. Skin – Hazard category 1 – H317
- Eye irritation – Hazard category 2 – H319
- Reproductive toxicity – Hazard category 2 – H361 fd
- Hazardous to the aquatic environment – Acute hazard. Category 1 – H400
- Hazardous to the aquatic environment – long term hazard. Category 3 – H412

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Classification according to regulation GB CLP
R7 – May cause fire
R36 – Irritating to eyes
R43 – May cause sensitization by skin contact
R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R62 – Possible risk of impaired fertility

2.2. Label Elements

Hazard pictograms

Signal word	Danger
Hazardous component(s) for labeling	Contains Dibenzoyl peroxide – Dicyclohexyl phtalate
H-statement(s)	H242 – Heating may cause a fire H317 – May cause an allergic skin reaction H319 – Causes serious eye irritation H361fd – Suspected to impair fertility – Suspected to damage the unborn child H400 – Very toxic to aquatic life H412 – Harmful to aquatic life with long lasting effects
P-statement(s)	P202 – Do not handle until all safety precautions have been read and understood P210 - Keep away from heat/sparks/open flames/hot surfaces – no smoking P260 – Do not breathe dust/fume/gas/mist/vapours/spray P273 – Avoid release to the environment P280 - Wear protective gloves/protective clothing/eye protection/face protection P302+P352 – IF ON SKIN: wash with plenty of soap and water P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove cc lenses, if present and easy to do. Continue rinsing. P370+P378 – in case of fire: Use ABC Powder for extinction P410 –Protect from sunlight P411+P235 – Store at temperatures not exceeding 30°C. Keep cool P501 - Dispose of contents/container in accordance with local and national regulation

2.3. Other hazards

Avoid an uncontrolled polymerization. Use only with Catalyst part B, respect the ratio part B/hardener.
The product is not classified as PBT or vPvB (REACH- Annex XIII)

SECTION 3: Composition/information on ingredients

SUBSTANCE [ ] MIXTURE [X]

Dangerous component(s)

Ingredient	N°CAS N° CE N° Index N° Enregistrement REACH	Classification	Concentration
Dibenzoyl peroxide	94-36-0 202-327-6 617-008-00-0 2119511472-50-xxxx	Org. Perox. B – H241 Skin Sens. 1 – H317 Eye Irrit. 2 – H319	>45 - < 51
Diclohexyl phtalate	84-61-7 201-545-9 ********* 2119978223-34-XXXX	Skin Sens. 1 – H317 Repr. 1B – H360D	>45 - < 51

The full text for all H and R phrases are displayed in section 16

** =Factor M: Regulation EC/1272/2008 point 4.1.3.5.5.5

SECTION 4: First aid measures

Take off all contaminated clothing immediately. Never give anything by mouth to an unconscious person.

4.1. Description of first aid measures

In case of inhalation:	Move immediately subject to fresh air and keep him calm. Place the victim in a position where it can easily breathe. If breathing is difficult, seek medical attention.
In case of skin contact:	Wash immediately with non-abrasive soap and plenty of water, at least 15 minutes. If skin irritation persists, consult a doctor. Wash contaminated clothing before re-using.
In case of eye contact:	Rinse immediately with plenty of water for at least 15 minutes, holding eyelids open. If the person uses contact lenses, remove them with caution. Quickly consult a specialist if irritation persists.
In case of ingestion:	Do not induce vomiting. Get medical attention immediately.

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

See sections 2 and 11

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO_2)
Extinguishing media which must not be used for safety reasons	high volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	Contains substances that may result in explosion caused by heat The product decomposes in an explosives way from 60°C. The products of decomposition must be considered as potentially dangerous and precautions must be taken in consequences (mix of benzene, benzoic acid, biphenyl, phenyl benzoate, carbon dioxide,…).

5.3. Advice for firefighters

Special protective equipment for firefighting.	Wear full firefighting protective clothing and self-contained breathing apparatus. Use water spray to keep fire-exposed containers cool. Do not allow fire extinguishing water to contaminate surface or groundwater systems.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-first aid worker

Evacuate the danger zone, follow emergency precautions.
Avoid contact with the material, do not breath vapours or aerosols, if possible, provide additional ventilation.
Personal protection equipment must be used (see section 8).
Remove all source of ignition.

For first aid worker

Eliminate all ignition sources. Do evacuate people on the surrounding area.
Do not take action without proper training and emergency equipment.

Use breathing apparatus if exposed to vapours/dust/mist/aerosol.

6.2. Environmental precautions

Do not allow to enter drains, sewers surface or ground water.
Use appropriate containment to avoid environmental contamination.
Inform the relevant authorities if the product has caused environmental pollution (sewers, waterway, soil or air).

6.3. Methods and material for containment and cleaning up

Stop leak if without risk – Move containers from spill area –Prevent entry into sewers, surface water
Collect the product with a shovel and a broom. Moisten slightly to avoid dust.
Do not close hermetically the packaging which contain the wet product.
Contaminated absorbent material and wash waters may pose the same hazards as the spilled product.

6.4. Reference to other sections

See section 7 for information on safe handling
See section 8 for information on personal protection equipment
See section 13 for disposal information

SECTION 7: Handling and storage

7.1. Precautions on safe handling

Observe all label precautions – Use appropriate Personal protective equipment (section 8 -)
Avoid breathing vapour/dust – Avoid contact with skin
Keep away from heat and sources of ignition - Take all precautions to prevent the accumulation of electrostatic charge.
Eating, drinking and smoking should be prohibited in areas where this product is handled, stored and used.
Worker should wash hands and face before eating, drinking and smoking.
Keep in the original container and kept tightly closed when not in use.
Provide good ventilation of working area (local exhaust ventilation if necessary).
During processing and handling of the product, comply with the indicative occupational exposure limit values

7.2. Conditions for safe storage, including any incompatibilities

Store in cool, dry, well ventilated place and keep container tightly closed. (5°C to 25°C), away from food and drink
Store in accordance with local regulations
Keep away from sources of ignition. Take precautionary measures against electrostatic charge.
Pay attention to the special requirements of your local authorities for storing dangerous goods.
Store only in the original receptacle with suitable labels.

7.3. Specific and uses

No other additional special end use are anticipated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

- Ingredients with limit values that requires monitoring at the workplace

Dibenzoyle peroxide - VME = 5 mg/m3 - (France) –
VME = mean exposure: 8 hours/day – 5 days/week
VLE = exposure limit value: 15 minutes

DNEL – Worker

Substance	Inhalation Short exposure	Inhalation Long exposure	Dermal Long exposure
Dibenzoyle peroxide	No data available	11.75 mg/m3 (es)	6.6 mg/kg bw/d (es)
Dicyclohexyl phtalate	No data available	35.2 mg/m3 (el)	0.5 mg/kg bw/d (es)

DNEL - Population

Substance	Inhalation Long exposure	Inhalation Short exposure	Dermal Long exposure	Ingestion Exposition Long term
Dibenzoyle peroxide	2.9 mg/m3 (es)	No data available	3.3 mg/kg bw/d (es)	1.65 mg/kg bw/d (es)
Dicyclohexyl phtalate	0.87 mg/m3 (es)	0.87 mg/m3 (es)	0.25 mg/kg bw/d (es)	0.25 mg/kg bw/d (es)

*(es) :systemic effect - *(el) : local effect - Data : ECHA (registered substances)

PNEC: Predicted No Effect Concentration

Substance	Fresh water (Mg/l)	Marine water ((mg/l)	Sediment Fresh water (mg/kg)	Sediment Marine water (mg/kg)	STP (mg/l)	SOIL (mg/kg)
Dibenzoyle peroxide	0.000602	0.0000602	0.338	No data available	0.35	0.0758
Dicyclohexyl phtalate	0.00362	0.000362	1.06	0.106	10	0.21

Data: ECHA (registered substances)

8.2. Exposure controls

Personal protection measures,
Provide adequate ventilation.
Observe occupational exposure limits.
Do not breathe dust. Avoid contact with eyes and skin
Store work clothing separately. Take off contaminated clothing immediately.
Follow the usual good standards of occupational hygiene. After work and before eating, drinking or smoking, wash face and hands thoroughly with soap and water.
Pregnant women should not be exposed to this product
Avoid the exposure of sensitive persons
In case of using individual protection equipment they should have the "CE marking" in accordance with Directive 89/686/EC. For more information on personal Protection equipment (storage, use, cleaning, maintenance, class of protection, ..) consult the information leaflet provided by the manufacturer.

Respiratory protection
Use suitable respiratory equipment (mask EN 149-2001- FFP2 or FFP3)

Hand Protection
Only use chemical protective gloves EN 374 [Nitril- Viton- Neoprene 45µ)
Gloves should be replaced regularly, especially after extended contact with the product. For each work-place a suitable glove type has de selected.
Replace gloves immediately when torn or any change in appearance is notified (dimension, colour, flexibility,..)
The selection of suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer

Eye Protection
Tightly sealed goggles (EN 166).
Provide eye wash fountain and safety shower in close proximity to points of potential exposure, if is it possible

Body protection
Wear appropriate work clothing to prevent any possibility of skin contact

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance- Colour - Odour	Solid. Powdery – White- Characteristic odour
pH	Non-applicable
Boiling Point [°C]	Non-applicable
Flash point	Non-applicable
Evaporate Rate	Non-applicable
Solubility in water	Non-applicable
Flammable limits	Non-applicable

Vapour pressure	Non-applicable
Relative vapour density (related to air)	No data available
Gravity	620 kg/m3 - 20°C
Partition coefficient (n-octanol/water)	No data available
Auto ignition temperature	Non-applicable
Decomposition temperature	62°C

9.2. Other information
No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity
None when used as directed.
10.2. Chemical stability
Stable under normal temperature condition and recommended use
10.3. Possibility of hazardous reactions
None under normal processing
Decomposition auto-accelerated from 60°C (SADT)
10.4. Conditions to avoid
Heat - Flames and sparks- Sunlight
10.5. Incompatible materials
Avoid contact with rust, copper, heavy metals, strong oxidizing agents, strong acids and strong bases
10.6. Hazardous decomposition products
See 5.2

SECTION 11: Toxicological information

11.1. Information on toxicological effects
The mixture was not tested, application of the conventional method from different substances which compose it.

Acute Toxicity

Substance (s)	LD50 oral/rat	LD50 Dermique lapin	LC Inhalation
Dibenzoyle peroxide	> 5 000 mg/kg	> 5 000 mg/kg	Rat (4h) = 24.3 mg/l
Dicyclohexyle phtalate	> 2 000 mg/kg	No data available	No data available

This product is not classified as toxic

Skin corrosion/irritation:	Product contains classified substances as irritating for the skin
Serious eye damage- Eye irritation:	Product enters in this hazard class
Respiratory/ Skin sensitization:	Product is classified in this hazard class – Sensitisation by skin contact
Specific Target organ Toxicity – Single exposure:	Product is not classified in this hazard class
Specific Target organ Toxicity – Repeated exposure:	Product is not classified in this hazard class
CMR :	
Carcinogenicity:	There are no known carcinogenic chemicals in this product
Reproductive Toxicity:	Product is classified in this hazard class / Exposure to the product can endanger fertility of human beings
Germ cell Mutagenicity:	Product is not classified in this hazard class

11.1.2. Mixture
No toxicological data available for the mixture.

SECTION 12: Ecological information

The mixture was not tested, application of the conventional method from different substances which compose it.

12.1. Toxicity

Substance(s)	CL50 - Fish	EC50 – Aquatic invertebrates	LC50 - Algae
Dibenzoyle peroxide - factor M = 10	(96h) : 0.0602 mg/l	(48h) = 0.11 mg/l	(72h) = 0.071 mg/l
Dicyclohexyle phtalate	(96h) = 10 - 100 mg/l	(48h) = 10 - 100 mg/l	(96h) = 10 – 100 mg/l

Do not reject in sewers or in natural environment.
Prevent the product from entering soil, natural bodies of water and sewer systems

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

Product does not cause bioaccumulation

12.4. Mobility in soil

No further relevant information available

12.5. Results of PBT and vPvB assessment

This product does not contain any BPT or vPvB substance

12.6. Other adverse effects

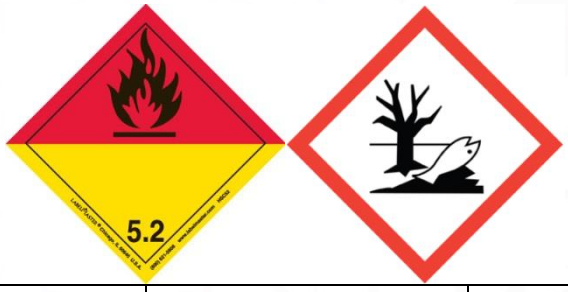
No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residues of cured MMA based products in empty containers do not need to be treated as hazardous waste. Clean empty containers should be disposed of in accordance with Local Authority guidelines. Cured product can be disposed of as industrial waste. Unused resin and powder catalyst must be treated as hazardous waste.

SECTION 14: Transport information

	ADR / RID	IMDG	IATA
14.1 N° ONU	3106		
14.2 UN proper shipping name	PEROXYDE ORGANIQUE de type D, solide (Dibenzoyle peroxyde)		
14.3 Transport hazard classe label	5.2 		
14.4 Packing Group	Non-applicable	Non-applicable	Non-applicable
14.5 Dangerous for Environment	Yes	Yes	Yes
14.6 Special precautions for users	Tunnel restriction : D Limited quantities: 500g	Limited quantities :500g	
14.7 Transport in bulk (annexe II MARPOL 73/78 ans IBC code)	Non-applicable		

SECTION 15: Regulatory information

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

Ozone depleting substances: Non applicable
Persistent organic Pollutants: Non applicable
Occupational restrictions: Note for juvenile. Note for pregnant woman and nursing mother (92/85/EEC)
Regulation REACH: EC 1907/2006
Regulation CLP: EC 1272/2008 on classification, labelling and packaging for substances and mixture
Regulation EU N° 453/2010 on safety data sheets
Candidate substances for authorization Regulation REACH: EC 1907/2006 Annex XIV: Non applicable

Specific provisions in terms of protecting people or the environment

It is recommended to use information included in this safety data sheet as data used in risk evaluation of the local circumstances in order to establish the necessary prevention measures for the manipulation, use, storage and disposal of this product

15.2 Chemical safety assessment

The supplier has not carried out evaluation of chemical safety

SECTION 16: Other information

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with the Regulation EC 1907/2006 (REACH) and the Regulation EC 453/2010 'Guide to the compilation of safety data sheets'.

Modifications on the safety data sheet

Writing of the document in accordance with regulation EC 1907/2006 and EC 1272/2008

Relevant H & R phrases from section3

R3 - Extreme risk of explosion by shocks, friction, fire or other sources of ignition.
R3 - Extreme risk of explosion by shocks, friction, fire or other sources of ignition.
R7 - May cause fire
R36 - Irritating to eyes
R43 - May cause sensitisation by skin contact
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R53 - May cause long-term adverse effects in the aquatic environment
R62 - Possible risk of impaired fertility
H241 - Heating may cause a fire or explosion
H317 - May cause an allergic skin reaction
H319 - Cause serious eye irritation
H361fd - Suspected of damaging fertility or the unborn child
H400 - Very toxic for aquatic life
H412 - Harmful to aquatic life with long lasting effects

Advice related to training

Minimal training is recommended to prevent industrial risk for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Main bibliographical sources

http://esis.jrc.ec.europa.eu
http://echa.europa.eu
http://eur-lex.europa.eu

Abbreviations and acronyms

ADR – European agreement concerning the international carriage of dangerous goods by road
IMDG – International Maritime Dangerous Goods code
IATA - International Air transport Association
COD – Chemical Oxygen Demand

BOD5 – 5-day Biochemical Oxygen Demand
LD50 – Lethal Dose 50
LC50 – Lethal concentration 50
EC50 – Effective concentration 50

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.