

1. IDENTIFICATION OF THE SUBSTRATE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name/designation: Caltech QC FR.

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

Relevant identified uses: Fluid plastic sealing.
For complex details only.

1.3 Manufacturer/Supplier

Supplier:
Alumasc Building Products Ltd
White House Works, Bold Road, Sutton, St Helens, Merseyside, United Kingdom, WA9 4JG
Tel: +44 (0)1744 648400
e-mail: technical@alumascroofing.com

1.4 Manufacturer/Supplier

Emergency telephone: 01744 648 400 - (Mon-Thurs – 08.30-17.00 Fri – 08.30-16.00)

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.

2.2 Labelling according to Regulation (EU) 1272/2008

Hazard pictures:



GHS02



GHS07

Signal word:

Danger.

Hazardous component(s) to be indicated on label:

Methyl Methacrylate, Methyl 2-Methylprop-2-Enoate, Methyl 2-Methyl- Propenoate, 2-Ethylhexyl Acrylate.

Hazard statements:

H225: Highly flammable liquid and vapour.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.

Precautionary statements:

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P233: Keep container tightly closed.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P312: Call a POISON CENTER or doctor/physician 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.

3. COMPOSITION AND INFORMATION ABOUT THE COMPONENTS

3.1 Substances

Fibre reinforced polymethylmethacrylate (PMMA) resin.

3.2 Mixture

Chemical characterization:

Mixture with reactive acrylates.

Hazardous ingredients:

Ingredient		Classification (EC) 1272/2008	Concentration
Methyl Methacrylate, Methyl 2-Methyl-Prop-2-Enoate, Methyl 2- Methylpropenoate	CAS No: 80-62-6 EC-No: 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	15.0 - 20.0 % by weight
2-Ethylhexyl Acrylate	CAS No: 103-11-7 EC-No: 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 Aquatic Chronic 3; H412	10.0 - 15.0 % by weight
Aliphatic Urethanacrylate		Skin Irrit. 2; H315 Eye Irrit. 2; H319	5.0 - 10.0 % by weight
1,1`-(P-Tolylimino) Dipropan-2-Ol	CAS No: 38668-48-3 EC-No: 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

4. FIRST AID MEASURES

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 doctor. 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 doctor immediately.

4.2 -

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Carbon dioxide (CO₂), Foam, Water spray, Dry powder.

Unsuitable extinguishing media:

High volume water jet.

5.2 Special hazards arising from the substance or mixture

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 fire-fighters

In the event of fire, wear self-contained breathing apparatus.
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.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
Avoid sub-soil penetration.

6.3 Methods and materials for containment and 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

Disposal considerations also see Section 13.

6.5 Additional information

Treat recovered material as described in the section "disposal considerations".

7. HANDLING AND STORAGE

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

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.

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	19

Source: 19 - EH40/2005 Workplace exposure limits (2011).

Europe:

Long-term exposure value/ppm	Short-term exposure value /ppm	Issuing date	Source
50	100	2009/161	24

Source: 24 - DIRECTIVE 2009/161/EU.

DNEL:

Value	Target group	Exposure route	Exposure frequency	Source
210 mg/m ³	Workers	Inhalation	Long-term effects local	100
210 mg/m ³	Workers	Inhalation	Long-term effects systemic	100
1,5 mg/cm ²	Workers	Skin	Long-term effects local	100
13,67 mg/kg	Workers	Skin	Long-term effects systemic	100
105 mg/m ³	Consumers	Inhalation	Long-term effects local	100
74,3 mg/m ³	Consumers	Inhalation	Long-term effects, systemic	100
1,5 mg/cm ²	Consumers	Skin	Long-term effects local	100
8,2 mg/kg	Consumers	Skin	Long-term effects systemic	100
1,5 mg/cm ²	Consumers	Skin	Short-term effects local	100

Source: 100 – Firmendaten.

PNEC:

Value	Exposure route	Source
0,94 mg/l	Freshwater	100
0,094 mg/l	Marine water	100
5,74 mg/kg	Sediment	100
1,47 mg/kg	Soil	100

Source: 100 – Firmendaten.

2-Ethylhexyl Acrylate:

DNEL:

Value	Target group	Exposure route	Exposure frequency	Source
37,5 mg/m ³	Workers	Inhalation	Long-term effects local	100
0,242 mg/cm ²	Workers	Skin	Long-term effects local	100
0,242 mg/cm ²	Workers	Skin	Short-term effects local	100
4,5 mg/m ³	Consumers	Inhalation	Long-term effects local	100

Source: 100 – Firmendaten.

PNEC:

Value	Exposure route	Source
0,002752 mg/l	Fresh water	100
0,000272 mg/l	Seawater	100
2,3 mg/l	Wastewater treatment plant	100
0,126 mg/kg	Sediment water	100
0,126 mg/kg	Sediment seawater	100
1,0 mg/kg	Soil	100
0,0023 mg/kg	Intermittent release	100

Source: 100 – Firmendaten.

1,1`-(P-Tolylimino)Dipropan-2-Ol:

DNEL:

Value	Target group	Exposure route	Exposure frequency	Source
2 mg/m ³	Workers	Inhalation	Long-term effects	100
0,6 mg/kg	Workers	Skin	Long-term effects	100

Source: 100 – Firmendaten.

PNEC:

Value	Exposure route	Source
199,5	Wastewater treatment	100
0,0072 mg/kg	Marine water	100
0,017 mg/l	Freshwater	100

Source: 100 – Firmendaten.

8.2 Exposure controls

Respiratory protection:

In interiors and during exceeding of the air limit values carrying of protective masks is absolutely necessary. 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.

Breakthrough time:

<25 mins.

Eye protection:

Tightly fitting safety goggles.

Skin and body protection:

Wear suitable protective equipment. Long sleeved clothing.

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.

Engineering measures:

Ensure adequate ventilation, especially in confined areas. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Liquid.
Form:	Liquid.
Colour:	Different colour tone.
Odour:	Typic for acrylates.
pH:	
Remarks:	Neutral.
*Boiling point [°C]:	>100°C.
*Flash point [°C]:	10°C.
Evaporation rate [kg / (s*m ²)]:	Not determined.
*Explosion limits [Vol-%]:	The product itself had not been tested.
Lower limit:	Methyl Methacrylate.
Upper limit:	1,7 vol %.
	12,5 vol %.
	2-Ethylhexyl Acrylate.
Lower limit:	0,9 vol %.
Upper limit:	6.4 vol %.
Vapour density:	Not determined.
Density [g/cm ³]:	Approx. 1,19 g/cm ³ .
Water solubility [g/l]:	
Remarks:	Insoluble.
Partition coefficient n-octanol/water (log P O/W):	Not determined.
Viscosity, dynamic [kg/(m*s)]:	Approx. 80 - 100 dPa*s.
Temperature:	20°C.
Measuring method:	Haake-Viscotester.
Explosive properties:	Not relevant.
Oxidising properties:	Not relevant.

9.2 Other information

Ignition temperature [°C]: 280°C.

10. STABILITY AND REACTIVITY

10.1 -

10.2 -

10.3 Possibility of 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

Extremes of temperature and direct sunlight.

10.5 Materials to avoid

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

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Hazardous ingredients:

Methyl Methacrylate:

Oral toxicity [mg/kg]	Test criterion	Test species	Measuring method	Source
>5000	LD50	Rat	OECD Test Guideline 401	100

Source: 100 – Firmendaten.

Dermal toxicity [mg/kg]	Test criterion	Test species	Source
>5000	LD50	Rabbit	100

Source: 100 – Firmendaten.

LC50 Inhalation 4h for vapours [mg/l]	Test criterion	Test species	Source
29,8 mg/l	LC50	Rat	100

Source: 100 – Firmendaten.

Irritant effect on skin:	Irritating.
Test species:	Rabbit.
Irritant effect on eyes:	Irritant.
Test species:	Rabbit.
Sensitization:	Skin sensitization.
Test species:	Mouse.
Carcinogenic effects:	Not a carcinogen.
Test species:	Rat, mouse.
Mutagenicity:	Not mutagenic.
Reproduction toxicity:	Not toxic to reproduction.

Specific target organ toxicity (single exposure) [mg/kg]	Source
Causes respiratory tract irritation.	100

Source: 100 – Firmendaten.

Specific target organ toxicity (repeated exposure) [mg/kg]	Source
No known effect.	100

Source: 100 – Firmendaten.

2-Ethylhexyl Acrylate:

Oral toxicity [mg/kg]	Test criterion	Test species	Source
4435 mg/kg	LD50	Rat	100

Source: 100 – Firmendaten.

Dermal toxicity [mg/kg]	Test criterion	Test species	Source
7522 mg/kg	LD50	Rabbit	100

Source: 100 – Firmendaten.

Inhalative toxicity [mg/l]	Test species	Exposure duration	Source
1,19 mg/l	Rat	8 hours	100

Source: 100 – Firmendaten.

Irritant effect on skin:	Skin irritation.
Test species:	Rabbit.
Exposure duration:	4 h.
Irritant effect on eyes:	Slightly irritating.
Measuring method:	OECD Test Guideline 405.
Test species:	Rabbit.
Sensitization:	Skin sensitization.
Carcinogenic effects:	No known effect.
Mutagenicity:	No known effect.
Reproduction toxicity:	No known effect.

Specific target organ toxicity (single exposure) [mg/kg]	Source
Causes respiratory tract irritation	100
Source: 100 – Firmendaten.	

Specific target organ toxicity (repeated exposure) [mg/kg]	Source
No known effect	100
Source: 100 – Firmendaten.	

1,1'-(P-Tolylimino)Dipropan-2-Ol:

Oral toxicity [mg/kg]	Test criterion	Test species	Source
45 mg/kg	LD50	Rat	100
Source: 100 – Firmendaten.			

Dermal toxicity [mg/kg]	Test criterion	Test species	Source
2001 mg/kg	LD50	Rat	100
Source: 100 – Firmendaten.			

Irritant effect on skin:	No skin irritation.
Irritant effect on eyes:	Irritant.
Sensitization:	No sensitization responses were observed.
Mutagenicity:	Negative.

11.2 Additional information

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

12. ECOLOGICAL INFORMATION

12.1 Ecological information

Toxicity:

Hazardous ingredients:

Methyl Methacrylate:

Toxicity to fish [mg/l]	Test criterion	Test species	Measuring method	Exposure duration	Source
191 mg/l	LC50	Oncorhynchus mykiss (rainbow trout)	OECD Test Guideline 203	96 h	100
Source: 100 – Firmendaten.					

Toxicity to daphnia [mg/l]	Test criterion	Test species	Exposure duration	Measuring method	Source
69 mg/l	EC50	Daphnia magna (water flea)	48 h	OECD Test Guideline 202	100
Source: 100 – Firmendaten.					

Toxicity to algae [mg/l]	Test criterion	Test species	Exposure duration	Measuring method	Source
>110 mg/l	EC50	Selenastrum capricornutum (green algae)	72 h	OECD Test Guideline 201	100
Source: 100 – Firmendaten.					

NOEC (fish) [mg/l]	Test species	Measuring method	Source
9,4	Brachydanio rerio (zebra fish)	OECD Test Guideline 210	100
Source: 100 – Firmendaten.			

NOEC (daphnia) [mg/l]	Test species	Measuring method	Source
37	Daphnia magna (water flea)	OECD Test Guideline 202	100

Source: 100 – Firmendaten.

Biodegradability: Readily biodegradable.
Method of analysis: OECD 301C/ ISO 9408/ EEC 92/69/V, C.4-F.
Bioaccumulation: Does not bioaccumulate.
Mobility: Terrestrial compartment not relevant.

2-Ethylhexyl Acrylate:

Toxicity to fish [mg/l]	Test criterion	Test species	Measuring method	Exposure duration	Source
1,81	LC50	Oncorhynchus mykiss (rainbow trout)	OECD Test Guideline 203	96 h	100

Source: 100 – Firmendaten.

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	100

Source: 100 – Firmendaten.

Toxicity to algae [mg/l]	Test criterion	Test species	Exposure duration	Measuring method	Source
1,71	EC50	Desmodesmus subspicatus	72 h	OECD Test Guideline 201	100

Source: 100 – Firmendaten.

NOEC (algae) [mg/l]	Test species	Measuring method	Source
0,45	Desmodesmus subspicatus	OECD Test Guideline 201	100

Source: 100 – Firmendaten.

Biodegradability: Readily biodegradable.
Ready degradability:
Bioaccumulation: Bioaccumulation slight, log Pow 4,64.

1,1'-(P-Tolylimino)Dipropan-2-Ol:

Toxicity to fish [mg/l]	Test criterion	Test species	Exposure duration	Source
17	LC50	Brachydanio rerio (zebra fish)	96 h	100

Source: 100 – Firmendaten.

Toxicity to daphnia [mg/l]	Test criterion	Test species	Exposure duration	Source
28,8	EC50	Daphnia magna (water flea)	18 h	100

Source: 100 – Firmendaten.

Toxicity to algae [mg/l]	Test criterion	Test species	Exposure duration	Source
245	EC50	Desmodesmus subspicatus	27 h	100

Source: 100 – Firmendaten.

Biodegradability: Poorly biodegradable.
Bioaccumulation: No data available.

12.2 -

12.3 -

12.4 -

12.5 Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.6 Other adverse effects

No data available.

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: 08 04 10: waste adhesives and sealants other than those mentioned in 08 04 09.
The EWC Nr. only apply for the liquid product.
08 01 12: waste paint and varnish other than those mentioned in 08 01 11.
The EWC Nr. only apply for the liquid product.
17 02 03: plastic.
This EWC Nr. only apply for the hardened product.
08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances.

Uncleaned empty packaging: -

14. TRANSPORT INFORMATION

	*Land transport ADR/RID	*Marine transport IMDG	*Air transport ICAO/IATA
14.1 UN-No	1263	1263	1263
14.2 Description of the goods	PAINT	PAINT	PAINT
14.3 UN proper shipping name		PAINT	PAINT
14.4 Transport hazard class(es)	3	3	3
14.5 Packaging group	III	III	III
Labels	3 	3 	3 – Flammable Liquid 
Risk No.	30		
Category	3		
Factor	1		
Classification code	F1		
SP 640	640E		
Tunnel restriction code	D/E		
Remarks	(einschließlich Farbe, Lack, Emaille, Beize, Schellack, Firnis, Politur, flüssiger Füllstoff und flüssige Lackgrundlage)	(including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base)	(including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
EmS		F-E;_S-E	
Stowage category		A	

14.6 -

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant.

15. REGULATORY INFORMATION

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

Additional regulations:

Additionally, observe any national regulations!

*MAL code: 4-5.

16. OTHER INFORMATION

Relevant H-phrases:

H225:	Highly flammable liquid and vapour.
H300:	Fatal if swallowed.
H315:	Causes skin irritation.
H317:	May cause an allergic skin reaction.
H319:	Causes serious eye irritation.
H335:	May cause respiratory irritation.
H412:	Harmful to aquatic life with long lasting effects.

Wording of the hazard classes:

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

Further information:

Full text of R-phrases referred to under Sections 2 & 3.

This information is provided in accordance with the current status of our knowledge and experience. The Safety Data Sheet describes products with a view to relevant safety requirements. This information does not constitute a warranty of properties, features or qualities.

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