

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

### 1.1 Product identifier

Trade name/designation: Caltech FCP Universal Primer.

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

Relevant identified uses: Primer for use with polyester and other resins.

Recommended restrictions: SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen).  
SU3 Industrial uses: Uses of substances as such or in preparations\* at industrial sites.

### 1.3 Supplier details

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](mailto:technical@alumascroofing.com)

### 1.4 Emergency telephone number

Association / Organisation: National Poisons Information Service  
Emergency telephone numbers: 0344 892 0111 (Healthcare professionals only)  
Other emergency telephone numbers Alumasc Building Products: +44 17 4464 8400  
(Mon-Thurs – 08.30-17.00 Fri – 08.30-16.00)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567 [1]:**

H361d - Reproductive Toxicity Category 2, H225 - Flammable Liquids Category 2, H335 - Specific Target Organ Toxicity – Single Exposure (Respiratory Tract Irritation) Category 3, H315 - Skin Corrosion/Irritation Category 2, H319 - Serious Eye Damage/Eye Irritation Category 2, H317 - Sensitisation (Skin) Category 1, H372 - Specific Target Organ Toxicity - Repeated Exposure Category 1.

### 2.2 Label elements

Hazard pictures:



Signal word:

**Danger.**

Hazard statements:

H361d Suspected of damaging the unborn child.  
H225 Highly flammable liquid and vapour.  
H335 May cause respiratory irritation.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H372 Causes damage to organs through prolonged or repeated exposure. (ears)  
(Inhalation)

Precautionary statements prevention:

P201: Obtain special instructions before use.  
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260: Do not breathe mist/vapours/spray.  
P271: Use only a well-ventilated area.

Precautionary statements response: P308+P313 IF exposed or concerned: Get medical advice/ attention.  
P370+P378 In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.  
P302+P352 IF ON SKIN: Wash with plenty of water and soap.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement(s) storage: P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

Precautionary statements disposal: P501: Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

### 2.3 Other hazards

Styrene: Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (restrictions may apply).  
Methyl Methacrylate: Listed in the Europe Regulation (EC) No 1907/2006 - Annex XVII (restrictions may apply).

## 3. COMPOSITION AND INFORMATION ABOUT THE COMPONENTS

### 3.1 Substances

See 'Composition on ingredients' in Section 3.2.

### 3.2 Mixtures

Ingredient	Numbers	Classification (EC) 1272/2008	SCL / M-Factor	Nanoform Particle Characteristics	Concentration
Styrene	CAS No: 100-42-5 EC-No: 202-851-5 Index-No: 601-026-00-0 REACH No: 01-2119457861-32-xxxx	Flammable Liquids Category 3, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 1; H226, H332, H315, H319, H361d, H372 [2]	*	Not available	5-15 % by weight
Methyl Methacrylate *	CAS No: 80-62-6 EC-No: 201-297-1 Index-No: 607-035-00-6 REACH No: 01-2119452498-28	Flammable Liquids Category 2, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3; H225, H315, H317, H335 [2]	Not available	Not available	15-25 % by weight
2-Hydroxyethyl Methacrylate	CAS No: 868-77-9 EC-No: 212-782-2 Index-No: 607-124-00-X REACH No: 01-2119490169-29	Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Sensitisation (Skin) Category 1; H315, H319, H317 [2]	Not available	Not available	2.5-10 % by weight
Cobalt 2-Ethylhexanoate	CAS No: 13586-82-8 EC-No: 237-015-9 Index-No: Not available REACH No: 01-2119524678-29-xxxx	Not Classified [3]	Not available	Not available	0.1-0.25 % by weight

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567; 3. Classification drawn from C&L; \* EU IOELVs available; [e] Substance identified as having endocrine disrupting properties.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

- Eye contact:** If this product comes in contact with the eyes:  
Wash out immediately with fresh running water.  
Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.  
Seek medical attention without delay; if pain persists or recurs seek medical attention.  
Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
- Skin contact:** If skin contact occurs:  
Immediately remove all contaminated clothing, including footwear.  
Flush skin and hair with running water (and soap if available).  
Seek medical attention in event of irritation.
- Inhalation:** If fumes or combustion products are inhaled remove from contaminated area.  
Lay patient down. Keep warm and rested.  
Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.  
Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.  
Transport to hospital, or doctor, without delay.
- Ingestion:** Immediately give a glass of water.  
First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

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

See Section 11.

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

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

For acute or short term repeated exposures to Styrene:

- Inhalation:** Severe exposures should have cardiac monitoring to detect arrhythmia.  
Catecholamines, especially epinephrine (adrenaline) should be used cautiously (if at all).  
Aminophylline and inhaled beta-two selective bronchodilators (e.g. salbutamol) are the drugs of choice for treatment of bronchospasm.
- Ingestion:** Ipecac syrup should be given for ingestions exceeding 3ml (styrene)/kg.  
For patients at risk of aspiration because of obtundation, intubation should precede lavage.  
Pneumonitis is a significant risk. Watch the patient closely in an upright (alert patient) or left lateral head-down position (obtunded patient) to reduce aspiration potential. [Ellenhorn and Barceloux: Medical Toxicology].

### BIOLOGICAL EXPOSURE INDEX – BEI

These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

Determinant	Index	Sampling Time	Comments
1. Mandelic acid in urine	800 mg/gm creatinine	End of shift	NS
	300 mg/gm creatinine	Prior to next shift	NS
2. Phenylglyoxylic acid in urine	240 mg/gm creatinine	End of shift	NS
	100 mg/gm creatinine	Prior to next shift	
3. Styrene in venous blood	0.55 mg/L	End of shift	SQ
	0.02 mg/L	Prior to next shift	SQ

NS: Non-specific determinant; also seen after exposure to other materials.

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

B: Background levels occur in specimens collected from subjects NOT exposed.

Treat symptomatically.

**For Methyl Methacrylate:**

Significant effects developing over a work-shift are not detected by symptomatology, blood pressure, respiratory function testing, haemoglobin and white cell count, urinalysis and blood chemistry. Effects may occur in high concentration exposure groups with regard to serum glucose and blood urea, nitrogen, cholesterol, albumin and total bilirubin values. Possible alterations occur in skin and nervous system symptomatology, urinalysis findings and serum triglycerides.

Diagnostic signs taken as indicative of methyl methacrylate-induced local neurotoxicity include sensory nerve distal conduction velocities. These deficits appear to result from diffusion of the substance into neurons, lysis of membrane lipids and demyelination.

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media:**

Foam, Dry chemical powder, BCF (where regulations permit), Carbon dioxide.

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

**Fire incompatibility:**

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

### 5.3 Advice for fire-fighters

**Fire-fighting:**

Alert Fire Brigade and tell them location and nature of hazard.

May be violently or explosively reactive.

Wear breathing apparatus plus protective gloves.

Prevent, by any means available, spillage from entering drains or water course.

**Fire/explosion hazard:**

Liquid and vapour are highly flammable.

Severe fire hazard when exposed to heat, flame and/or oxidisers.

Vapour may travel a considerable distance to source of ignition.

Heating may cause expansion or decomposition leading to violent rupture of containers.

Combustion products include:

- Carbon monoxide (CO)

- Carbon dioxide (CO<sub>2</sub>)

- Other pyrolysis products typical of burning organic material.

May emit clouds of acrid smoke.

## 6. ACCIDENTAL RELEASE MEASURES

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

See Section 8.

### 6.2 Environmental Precautions

See Section 12.

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

**Minor spills:**

Remove all ignition sources.

Clean up all spills immediately.

Avoid breathing vapours and contact with skin and eyes.

Control personal contact with the substance, by using protective equipment.

#### Major spills:

Clear area of personnel and move upwind.  
Alert Fire Brigade and tell them location and nature of hazard.  
May be violently or explosively reactive.  
Wear breathing apparatus plus protective gloves.

#### 6.4 Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### Safe handling:

Containers, even those that have been emptied, may contain explosive vapours.  
Do NOT cut, drill, grind, weld or perform similar operations on or near containers.  
Avoid all personal contact, including inhalation.  
Wear protective clothing when risk of overexposure occurs.  
Use in a well-ventilated area.  
Prevent concentration in hollows and sumps.  
**DO NOT allow clothing wet with material to stay in contact with skin.**

#### Fire and explosion protection:

See Section 5.

#### Other information:

Store in original containers in approved flame-proof area.  
No smoking, naked lights, heat or ignition sources.  
**DO NOT store in pits, depressions, basements or areas where vapours may be trapped.**  
Keep containers securely sealed.

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

#### Suitable container:

##### For Acrylates or Methacrylates:

Storage tanks and pipes should be made of stainless steel or aluminium.  
Although they do not corrode carbon steel, there is a risk of contamination if corrosion does occur.  
Packing as supplied by manufacturer.  
Plastic containers may only be used if approved for flammable liquid.  
Check that containers are clearly labelled and free from leaks.  
For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.  
For materials with a viscosity of at least 2680 cSt. (23 deg. C).  
For manufactured product having a viscosity of at least 250 cSt.

#### Storage incompatibility:

##### Methyl Acrylate:

- May polymerise explosively when heated above 21 C, or in light, or when when inhibitor concentrations fall to low levels
- Storage containers may explode at elevated temperatures
- Reacts violently with strong oxidisers
- Is incompatible with strong acids, alkalis, aliphatic amines, alkanolamines, polyvinyl chloride, mercaptans, nitro-compounds, perborates, azides, ethers, ketones, aldehydes, nitrates, nitrites, reducing agents, acid anhydrides, acid chlorides, concentrated mineral acids, metal salts, strong bases
- Is usually stored below 10 deg C
- Vapour may block vents and confined spaces after forming solid polymers

NOTE: Contact with alkali solutions will remove inhibitor and render material unstable on storage.  
Avoid oxygen content of less than 5%.

#### For Alkyl Aromatics:

The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms. The most common and dominant one is the attack by oxidation at benzylic carbon as the intermediate formed is stabilised by resonance structure of the ring.

- Following reaction with oxygen and under the influence of sunlight, a hydroperoxide at the alpha-position to the aromatic ring, is the primary oxidation product formed (provided a hydrogen atom is initially available at this position) - this product is often short-lived but may be stable dependent on the nature of the aromatic substitution; a secondary C-H bond is more easily attacked than a primary C-H bond whilst a tertiary C-H bond is even more susceptible to attack by oxygen.

- Monoalkylbenzenes may subsequently form monocarboxylic acids; alkyl naphthalenes mainly produce the corresponding naphthalene carboxylic acids.
- Oxidation in the presence of transition metal salts not only accelerates but also selectively decomposes the hydroperoxides.
- Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents.
- Aromatics can react exothermically with bases and with diazo compounds.
- Stable under controlled storage conditions provided material contains adequate stabiliser / polymerisation inhibitor.
- Bulk storages may have special storage requirements.
- WARNING: Gradual decomposition in strong, sealed containers may lead to a large pressure build-up and subsequent explosion. Rapid and violent polymerisation possible at temperatures above 32 deg c.

**Styrene:**

- Requires inhibition with adequate levels of substituted phenol (such as tert-butylcatechol to prevent polymerisation – material that has had inhibitor removed, e.g.is uninhibited, must be refrigerated and used within 24 hours, i.e. Not stored; contact with alkali solutions or glycols will remove inhibitor and render material unstable on storage polymerisation may cause container to explode.
- Polymerisation may be caused by elevated temperatures (above 66 deg c.), butyl lithium, peroxides, uv light, or sunlight.
- Reacts violently with chlorosulfonic acid, strong oxidisers, sulfuric acid, xenon tetrafluoride.
- Is incompatible with acids, rust, catalysts for vinyl polymerisation, 2,5-dimethyl-2,5-di(tert-butylperoxy)hexane, peroxides,
- Metals salts (e.g., aluminium chloride, copper chlorate, manganese nitrate, etc).
- Corrodes copper and its alloys.
- Attacks some plastics, rubber or coatings.
- Flow or agitation may generate electrostatic charges due to low conductivity.
- Uninhibited monomer vapour may block vents and confined spaces by forming solid polymer.

**7.3. Specific end use(s)**

See Section 1.2.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
Styrene	Dermal 406 mg/kg bw/day (Systemic, Chronic) Inhalation 85 mg/m <sup>3</sup> (Systemic, Chronic) Inhalation 100 mg/m <sup>3</sup> (Local, Chronic) Inhalation 100 mg/m <sup>3</sup> (Systemic, Acute) Inhalation 100 mg/m <sup>3</sup> (Local, Acute) Dermal 343 mg/kg bw/day (Systemic, Chronic) * Inhalation 1 mg/m <sup>3</sup> (Systemic, Chronic) * Oral 2.1 mg/kg bw/day (Systemic, Chronic) * Inhalation 1 mg/m <sup>3</sup> (Local, Chronic) * Inhalation 10 mg/m <sup>3</sup> (Systemic, Acute) * Inhalation 10 mg/m <sup>3</sup> (Local, Acute) *	0.028 mg/L (Water (Fresh)) 0.014 mg/L (Water - Intermittent release) 0.04 mg/L (Water (Marine)) 0.418 mg/kg sediment dw (Sediment (Fresh Water)) 0.307 mg/kg sediment dw (Sediment (Marine)) 0.146 mg/kg soil dw (Soil) 5 mg/L (STP)
Methyl Methacrylate	Dermal 13.67 mg/kg bw/day (Systemic, Chronic) Inhalation 208 mg/m <sup>3</sup> (Systemic, Chronic) Dermal 1.5 mg/cm <sup>2</sup> (Local, Chronic) Inhalation 208 mg/m <sup>3</sup> (Local, Chronic) Dermal 1.5 mg/cm <sup>2</sup> (Local, Acute) Dermal 8.2 mg/kg bw/day (Systemic, Chronic) * Inhalation 74.3 mg/m <sup>3</sup> (Systemic, Chronic) * Dermal 1.5 mg/cm <sup>2</sup> (Local, Chronic) * Inhalation 104 mg/m <sup>3</sup> (Local, Chronic) * Dermal 1.5 mg/cm <sup>2</sup> (Local, Acute) *	0.94 mg/L (Water (Fresh)) 0.94 mg/L (Water - Intermittent release) 0.94 mg/L (Water (Marine)) 5.74 mg/kg sediment dw (Sediment (Fresh Water)) 1.47 mg/kg soil dw (Soil) 10 mg/L (STP)
2-Hydroxyethyl Methacrylate	Dermal 1.3 mg/kg bw/day (Systemic, Chronic) Inhalation 4.9 mg/m <sup>3</sup> (Systemic, Chronic) Dermal 0.83 mg/kg bw/day (Systemic, Chronic) * Inhalation 2.9 mg/m <sup>3</sup> (Systemic, Chronic) * Oral 0.83 mg/kg bw/day (Systemic, Chronic) *	0.482 mg/L (Water (Fresh)) 0.482 mg/L (Water - Intermittent release) 1 mg/L (Water (Marine)) 3.79 mg/kg sediment dw (Sediment (Fresh Water)) 3.79 mg/kg sediment dw (Sediment (Marine)) 0.476 mg/kg soil dw (Soil) 10 mg/L (STP)

Cobalt 2-Ethylhexanoate	Inhalation 235.1 µg/m³ (Local, Chronic) Oral 175 µg/kg bw/day (Systemic, Chronic) * Inhalation 37 µg/m³ (Local, Chronic) *	0.62 µg/L (Water (Fresh)) 2.36 µg/L (Water - Intermittent release) 53.8 mg/kg sediment dw (Sediment (Fresh Water)) 69.8 mg/kg sediment dw (Sediment (Marine)) 10.9 mg/kg soil dw (Soil) 0.37 mg/L (STP)
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\* Values for General Population

**Occupational Exposure Limits (OEL)**

**Ingredient data:**


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
UK Workplace Exposure Limits (WELs).	Styrene	Styrene	100 ppm / 430 mg/m3	1080 mg/m3 / 250 ppm	Not available	Not available
UK Workplace Exposure Limits (WELs).	Methyl Methacrylate	Methyl Methacrylate	50 ppm / 208 mg/m3	416 mg/m3 / 100 ppm	Not available	Not available
UK Workplace Exposure Limits (WELs).	Cobalt 2-Ethylhexanoate	Cobalt and Cobalt compounds (as Co)	0.1 mg/m3	Not available	Not available	Carc (cobalt dichloride and sulphate), Sen

**Emergency limits:**

Ingredient	TEEL-1	TEEL-2	TEEL-3
Styrene	Not available	Not available	Not available
Methyl Methacrylate	Not available	Not available	Not available
2-Hydroxyethyl Methacrylate	1.9 mg/m3	21 mg/m3	21 mg/m3

Ingredient	Original IDLH	Revised IDLH
Styrene	700 ppm	Not available
Methyl Methacrylate	1,000 ppm	Not available
2-Hydroxyethyl Methacrylate	Not available	Not available
Cobalt 2-Ethylhexanoate	Not available	Not available

**8.2 Exposure controls**

8.2.1. Appropriate engineering Controls:	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
8.2.2. Personal protection:	
Eye and face protection:	Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection:	See Hand Protection below.

<p>Hands/feet protection:</p>	<p>Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber</p> <p><b>NOTE:</b> The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care.</p>
<p>Body protection:</p>	<p>See Other Protection below.</p>
<p>Other protection:</p>	<p>Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent]</p> <p>Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent]</p> <p>Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely.</p> <p>Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood.</p> <p>Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.</p> <p>Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Eyewash unit.</p> <p>Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</p> <p>For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</p> <p>Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot an shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds.</p>



Respiratory protection:	<p>Type A Filter of sufficient capacity. (AS/NZS 1716 &amp; 1715, EN 143:2000 &amp; 149:2001, ANSI Z88 or national equivalent)</p> <p>Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.</p> <p>The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.</p> <p>Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used.</p>
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### 8.2.3 Environmental exposure controls

See Section 12.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Important health, safety and environmental information

<b>Appearance:</b>	Yellow	<b>Relative density (Water =1):</b>	1.14
<b>Physical state:</b>	Liquid	<b>Partition coefficient n-octanol / water:</b>	Not available
<b>Odour:</b>	Not available	<b>Auto-ignition temperature (°C):</b>	Not available
<b>Odour threshold:</b>	Not available	<b>Decomposition temperature (°C):</b>	Not available
<b>pH (as supplied):</b>	Not available	<b>Viscosity (cSt):</b>	1000 cps
<b>Melting point/freezing point (°C):</b>	Not available	<b>Molecular weight (g/mol):</b>	Not available
<b>Initial boiling point and boiling range (°C):</b>	Not available	<b>Taste:</b>	Not available
<b>Flash point (°C):</b>	21.5°C	<b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures is possible
<b>Evaporation rate [kg/(s m<sup>2</sup>)]:</b>	Not available	<b>Oxidising properties:</b>	Not available
<b>Flammability:</b>	Highly Flammable	<b>Surface Tension (dyn/cm or mN/m):</b>	Not available
<b>Upper Explosive Limit (%):</b>	Not available	<b>Volatile Component (%vol):</b>	Not available
<b>Lower Explosive Limit (%):</b>	Not available	<b>Gas group:</b>	Not available
<b>Vapour pressure (kPa):</b>	Not available	<b>pH as a solution (1%):</b>	Not available
<b>Solubility in water:</b>	Immiscible	<b>VOC g/L:</b>	Not available
<b>Vapour density (Air = 1):</b>	Not available	<b>Nanoform particle Characteristics:</b>	Not available
<b>Nanoform Solubility:</b>	Not available		
<b>Particle Size:</b>	Not available		

### 9.2 Other information

Not available.

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

See Section 7.2.

### 10.2 Chemical stability

Stable under controlled storage conditions provided material contains adequate stabiliser / polymerisation inhibitor. Bulk storages may have special storage requirements.

WARNING: Gradual decomposition in strong, sealed containers may lead to a large pressure build-up and subsequent explosion. Rapid and violent polymerisation possible at temperatures above 32 deg c.

### 10.3 Possibility of hazardous reactions

See Section 7.2.

### 10.4 Conditions to avoid

See Section 7.2.

### 10.5 Incompatible materials

See Section 7.2.

### 10.6 Hazardous decomposition products

See Section 5.3.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Inhaled:	<p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Workers in plants manufacturing methyl methacrylate may experience headaches, pains in the extremities, tiredness, memory loss and sleep disturbance, with hormonal disturbance in women. Inhalation of the substance may cause low blood pressure, central nervous system depression, liver and kidney degeneration and death from failure of breathing.</p> <p>The material has NOT been classified by EC Directives or other classification systems as "harmful by inhalation". This is because of the lack of corroborating animal or human evidence.</p> <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Central nervous system (CNS) depression is seen at styrene exposures exceeding 50 ppm, whilst headache, fatigue, nausea and dizziness are seen consistently at exposures of 100 ppm. Evidence exists that at 100 ppm, 5-10% reductions in sensory nerve conductions occur, and after exposure to 50 ppm, there is slowing of reaction times.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>The acute toxicity of inhaled alkylbenzene is best described by central nervous system depression. These compounds may also act as general anaesthetics. Whole body symptoms of poisoning include light-headedness, nervousness, apprehension, a feeling of well-being, confusion, dizziness, drowsiness, ringing in the ears, blurred or double vision, vomiting and sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, depression of breathing, and arrest. Heart stoppage may result from cardiovascular collapse.</p>
Ingestion:	<p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC 13733)</p> <p>At sufficiently high doses the material may be hepatotoxic (i.e. poisonous to the liver).</p> <p>Oral doses can produce low blood pressure, central nervous system depression and drowsiness, liver and kidney degeneration and death after cessation of breathing.</p> <p>The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.</p> <p>Styrene is absorbed into the body following oral or inhalation exposure. Its metabolites include styrene oxide, styrene glycol, mandelic acid, benzoic acid, hippuric acid, phenyl glyoxylic acid and possibly vinyl phenol. It is detectable in liver, kidney, pancreas, expired air, urine and faeces in the body.</p>
Skin Contact:	<p>This material can cause inflammation of the skin on contact in some persons.</p> <p>The material may accentuate any pre-existing dermatitis condition. Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Reports of dental technicians, surgeons and manufacturing employees with direct skin contact with methyl methacrylate show altered sensation such as numbing and tingling sensation on the fingers, with mild local nerve damage.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.</p> <p>Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Styrene has been showed to be absorbed less through the skin than via the airways.</p>
Eye:	<p>This material can cause eye irritation and damage in some persons.</p>

Chronic:	<p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information.</p> <p>Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</p> <p>This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.</p> <p>Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Prolonged and repeated exposures can cause liver and kidney damage, low blood pressure and heart attack. There may be increased deaths from colon or rectal cancer. Long term local injection may cause tumour of the local tissues. When inhaled, it may cause watery and sore nostrils and destruction of the organ of smell.</p> <p>Exposure to styrene may aggravate central nervous system disorders, chronic respiratory disease, skin disease, kidney disease and liver disease. Exposure to styrene at work causes effects on the nervous system.</p>
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**Caltech FCP Universal Primer:**

Toxicity	Irritation
Not available	Not available

**Styrene:**

Toxicity	Irritation
Dermal (Rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (Rabbit): 100 mg/24h - moderate
Inhalation(Mouse) LC50: 9.5 mg/L4h <sup>[2]</sup>	Eye (rabbit): 100 mg/24h - moderate
Oral(Mouse) LD50: 316 mg/kg <sup>[2]</sup>	Skin (Rabbit): 500 mg - mild
	Skin (Rabbit): 500 mg - mild

**Methyl Methacrylate:**

Toxicity	Irritation
Dermal (Rabbit) LD50: >5000 mg/kg <sup>[2]</sup>	Eye (Rabbit): 150 mg
Inhalation(Rat) LC50: 29.8 mg/l4h <sup>[1]</sup>	Skin (Rabbit): 10000 mg/kg (open)
Oral (Rat) LD50: 7872 mg/kg <sup>[2]</sup>	

**2-Hydroxyethyl Methacrylate:**

Toxicity	Irritation
Dermal (Rabbit) LD50: >3000 mg/kg <sup>[2]</sup>	Eye (Rabbit): SEVERE *
Oral (Mouse) LD50: 3275 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Skin (Rabbit): non-irritating*
	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>

**Cobalt 2-Ethylhexanoate:**

Toxicity	Irritation
Dermal (Rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
Inhalation(Rat) LC50: >2.5 mg/L4h <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
Oral (Rat) LD50: 3129 mg/kg <sup>[1]</sup>	

**Legend:**

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances.

Caltech FCP Universal Primer:	<p>Data demonstrate that during inhalation exposure, aromatic hydrocarbons undergo substantial partitioning into adipose tissues.</p> <p>Following cessation of exposure, the level of aromatic hydrocarbons in body fats rapidly declines. Thus, the aromatic hydrocarbons are unlikely to bioaccumulate in the body. Selective partitioning of the aromatic hydrocarbons into the non-adipose tissues is unlikely.</p>
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Styrene:	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. <b>WARNING:</b> This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
Methyl Methacrylate:	Inhalation (human) TClO: 60 mg/m3(15 ppm) [* Manuf. Rohm & Haas] MMA is absorbed after inhalation, oral intake and less readily through the skin. Following inhalation it is partly deposited in the airway where it is metabolised by local enzymes. Acute toxicity is low. Skin, eye and airway irritation can result as well as degeneration of the smell function of the nose. Where no "official" classification for acrylates and methacrylates exists, there have been cautious attempts to create classifications in the absence of contrary evidence. For example Monoalkyl or monoarylestere of acrylic acids should be classified as R36/37/38 and R51/53 Monoalkyl or monoaryl estere of methacrylic acid should be classified as R36/37/38 The substance is classified by IARC as Group 3: <b>NOT</b> classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals that contain the acrylate or methacrylate moiety (CH <sub>2</sub> =CHCOO or CH <sub>2</sub> =C(CH <sub>3</sub> )COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing. This position has now been revised and acrylates and methacrylates are no longer de facto carcinogens.
2-Hydroxyethyl Methacrylate:	Dermal (rabbit): >5000 mg/kg* Effects persist beyond 21 days.
Cobalt 2-Ethylhexanoate:	No significant acute toxicological data identified in literature search.
Caltech FCP Universal Primer & Methyl Methacrylate & 2-Hydroxyethyl Methacrylate:	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.
Caltech FCP Universal Primer & Methyl Methacrylate & 2-Hydroxyethyl Methacrylate & Cobalt 2-Ethylhexanoate:	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.

<b>Acute Toxicity</b>	✘	<b>Carcinogenicity</b>	✘
<b>Skin Irritation/Corrosion</b>	✔	<b>Reproductivity</b>	✔
<b>Serious Eye Damage/Irritation</b>	✔	<b>STOT - Single Exposure</b>	✔
<b>Respiratory or Skin Sensitisation</b>	✔	<b>STOT - Repeated Exposure</b>	✔
<b>Mutagenicity</b>	✘	<b>Aspiration Hazard</b>	✘

**Legend:**

- ✘ - Data either not available or does not fill the criteria for classification.
- ✔ - Data available to make classification.

**11.2 Additional information**

**11.2.1 Endocrine Disruption Properties**

Not available.

**11.2.2. Other Information**

See Section 11.1.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Caltech FCP Universal Primer::

End point	Test duration (Hr)	Species	Value	Source
Not available	Not available	Not available	Not available	Not available

#### Styrene:

End point	Test duration (Hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	1.4mg/l	1
EC50	48h	Crustacea	4.7mg/l	1
NOEC(ECx)	96h	Algae or other aquatic plants	0.063mg/l	1
LC50	96h	Fish	4.02mg/l	2
EC50	96h	Algae or other aquatic plants	0.72mg/l	1

#### Methyl Methacrylate:

End point	Test duration (Hr)	Species	Value	Source
EC0(ECx)	48h	Crustacea	48mg/l	1
EC50	72h	Algae or other aquatic plants	>110mg/l	2
EC50	48h	Crustacea	69mg/l	1
LC50	96h	Fish	>79mg/l	2
EC50	96h	Algae or other aquatic plants	170mg/l	1

#### 2-Hydroxyethyl Methacrylate:

End point	Test duration (Hr)	Species	Value	Source
EC0(ECx)	504h	Crustacea	24.1mg/l	2
EC50	72h	Algae or other aquatic plants	345mg/l	2
EC50	48h	Crustacea	210mg/l	2
LC50	96h	Fish	>100mg/l	2

#### Cobalt 2-Ethylhexanoate

End point	Test duration (Hr)	Species	Value	Source
EC50	72h	Algae or other aquatic plants	44.39mg/l	2
EC50	48h	Crustacea	5.89mg/l	2
NOEC(ECx)	24h	Algae or other aquatic plants	0.025mg/l	2
LC50	96h	Fish	1.512mg/l	2
EC50	96h	Algae or other aquatic plants	10.8mg/l	2

#### Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data.

When spilled this product may act as a typical oil, causing a film, sheen, emulsion or sludge at or beneath the surface of the body of water. The oil film on water surface may physically affect the aquatic organisms, due to the interruption of the oxygen transfer between the air and the water

Oils of any kind can cause:

- Drowning of water-fowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility.
- Lethal effects on fish by coating gill surfaces, preventing respiration.
- Asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom.
- Adverse aesthetic effects of fouled shoreline and beaches.

In case of accidental releases on the soil, a fine film is formed on the soil, which prevents the plant respiration process and the soil particle saturation. It may cause deep water infestation.

For Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs.

Atmospheric Fate: PAHs are 'semi-volatile substances' which can move between the atmosphere and the Earth's surface in repeated, temperature-driven cycles of deposition and volatilization. Terrestrial Fate: BTEX compounds have the potential to move through soil and contaminate ground water, and their vapors are highly flammable and explosive.

Ecotoxicity - Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus.

**For Styrene:**

Transport: Styrene is expected to volatilise from surface waters, and is also removed from waters by adsorption onto soils and sediments. Under certain conditions, styrene may leach through soil (particularly sandy soils) and enter ground water.

Transformation/Persistence: Air - In the atmosphere, styrene reacts with both hydroxyl radicals and ozone with estimated half-lives of 3.5 and 9 hours, respectively. The chemical is also degraded in the presence of NOX and natural sunlight.

**For Methyl Methacrylate (MMA):**

Koc: 87; Log Pow: 1.83; Half-life (hr) air: 2.7-3; Half-life (hr) H2O surface water: 6.3-336; Henry's atm m3/mol: 3.24E-04; BOD5: 0.14; log BCF: 0.55.

Environmental Fate: The environmental behavior of MMA is determined by its range of 1.1-9.7 hours atmospheric half-life and moderate volatility. MMA is readily biodegradable. The air, and to a much lower extent, the water, are the preferred target compartments for distribution and neither relevant bioaccumulation nor geo-accumulation are expected.

Substances containing unsaturated carbons are ubiquitous in indoor environments. They result from many sources (see below). Most are reactive with environmental ozone and many produce stable products which are thought to adversely affect human health. The potential for surfaces in an enclosed space to facilitate reactions should be considered.

Source of unsaturated substances Unsaturated substances (Reactive Emissions) Major Stable Products produced following reaction with ozone.

**DO NOT discharge into sewer or waterways.**

**12.2 Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
Styrene	HIGH (Half-life = 210 days)	LOW (Half-life = 0.3 days)
Methyl Methacrylate	LOW	LOW
2-Hydroxyethyl Methacrylate	LOW	LOW

**12.3 Bioaccumulation potential**

Ingredient	Bioaccumulation
Styrene	LOW (BCF = 77)
Methyl Methacrylate	LOW (BCF = 6.6)
2-Hydroxyethyl Methacrylate	LOW (BCF = 1.54)

**12.4 Mobility in soil**

Ingredient	Mobility
Styrene	LOW (KOC = 517.8)
Methyl Methacrylate	LOW (KOC = 10.14)
2-Hydroxyethyl Methacrylate	HIGH (KOC = 1.043)

**12.5 Results of PBT and vPvB assessment**

	P	B	T
Relevant available data	Not available	Not available	Not available
PBT	✗	✗	✗
vPvB	✗	✗	✗
PBT Criteria fulfilled?	No		
vPvB	No		

**12.6 Endocrine Disruption Properties**

Not available.

**12.7. Other adverse effects**

Not available.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

Product / packaging disposal:	<p>Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. Otherwise: If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate: Reduction Reuse Recycling Disposal (if all else fails) This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. <b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. Recycle wherever possible. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material). Decontaminate empty containers.</p>
Waste Code:	08 01 11 - waste paint and varnish containing organic solvents or other dangerous substances.
Waste treatment options:	Not available.
Sewage disposal options:	Not available.

### 14. TRANSPORT INFORMATION

#### Labels required:



Marine Pollutant: No.

Hazchem: 3Y.

#### Land transport (ADR):

14.1 UN number	1263
14.2 UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
14.3 Transport hazard class(es)	Class: 3 Subrisk: Not applicable
14.4 Packing group	III Note: Due to its relatively high viscosity this normally Packing Group II classified product has been re-assigned as Packing Group III in accordance with ADR section 2.2.3.1.4

14.5 Environmental hazard	Not applicable	
14.6 Special precautions for user	Hazard identification (Kemler):	30
	Classification code:	F1
	Hazard label:	3
	Special provisions:	163 367 650
	Limited quantity:	5 L
	Tunnel restriction code:	3 (D/E) (E)

**Air transport (ICAO-IATA/DGR):**

14.1 UN number	1263	
14.2 UN proper shipping name	Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)	
14.3 Transport hazard class(es)	ICAO/IATA class:	3
	ICAO/IATA subrisk:	Not applicable
	ERG code:	3 L
14.4 Packing group	Not applicable	
14.5 Environmental hazard	Not applicable	
14.6 Special precautions for user	Special provisions:	A3 A72 A192
	Cargo only packing instruction:	366
	Cargo only maximum qty/pack:	220 L
	Passenger and cargo packing instruction:	355
	Passenger and cargo maximum qty/pack:	60 L
	Passenger and cargo limited qty packing instructions:	Y344
	Passenger and cargo limited maximum qty/pack:	10 L

**Sea transport (IMDG-Code/GGVSee):**

14.1 UN number	1263	
14.2 UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	
14.3 Transport hazard class(es)	IMDG class:	3
	IMDG subrisk:	Not applicable
14.4 Packing group	III Note: Due to its relatively high viscosity, and in accordance with section 2.3.2.5 of the IMDG code, this material is not subject to the provisions for marking, labelling and testing of packages, when packed in receptacles of no greater than 30 litres.	
14.5 Environmental hazard	Not applicable	
14.6 Special precautions for user	EMS number:	F-E, S-E
	Special provisions:	163 223 367 955
	Limited quantities:	5 L

**Inland waterways transport (ADN):**

14.1 UN number	1263	
14.2 UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	
14.3 Transport hazard class(es)	3	Not applicable
14.4 Packing group	III	
14.5 Environmental hazard	Not applicable	
14.6 Special precautions for user	Classification code:	F1
	Special provisions:	163; 367; 650
	Limited quantity:	5 L
	Equipment required:	PP, EX, A
	Fire cones numbers:	0

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC code**

Not applicable.



#### 14.8 Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product Name	Group
Styrene	Not available
Methyl Methacrylate	Not available
2-Hydroxyethyl Methacrylate	Not available
Cobalt 2-Ethylhexanoate	Not available

#### 14.9 Transport in bulk in accordance with the ICG Code

Product Name	Ship Type
Styrene	Not available
Methyl Methacrylate	Not available
2-Hydroxyethyl Methacrylate	Not available
Cobalt 2-Ethylhexanoate	Not available

### 15. REGULATORY INFORMATION

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

##### Styrene is found on the following regulatory lists:

Chemical Footprint Project - Chemicals of High Concern List

Great Britain GB mandatory classification and labelling list (GB MCL)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

UK REACH grandfathered registrations notified substances list

UK Workplace Exposure Limits (WELs).

##### Methyl Methacrylate is found on the following regulatory lists:

Great Britain GB mandatory classification and labelling list (GB MCL)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

UK REACH grandfathered registrations notified substances list

UK Workplace Exposure Limits (WELs).

##### 2-Hydroxyethyl Methacrylate is found on the following regulatory lists:

Great Britain GB mandatory classification and labelling list (GB MCL)

UK REACH grandfathered registrations notified substances list

##### Cobalt 2-Ethylhexanoate is found on the following regulatory lists:

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

UK REACH grandfathered registrations notified substances list

UK Workplace Exposure Limits (WELs).

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

#### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

##### National inventory status:

National Inventory	Status
Australia - AICC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (Styrene; Methyl Methacrylate; 2-Hydroxyethyl Methacrylate; Cobalt 2 Ethylhexanoate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes

Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory. No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

## 16. OTHER INFORMATION

### Full text risk and hazard codes:

H226: Flammable liquid and vapour.  
H332: Harmful if inhaled.

### SDS version summary:

Version	Date of Update	Section Updated
1.1	14/06/2023	Template change

### Other information:

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eye-protection  
EN 340 Protective clothing  
EN 374 Protective gloves against chemicals and micro-organisms  
EN 13832 Footwear protecting against chemicals  
EN 133 Respiratory protective devices

### Definitions and abbreviations:

PC—TWA: Permissible Concentration-Time Weighted Average  
PC—STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit  
IDLH: Immediately Dangerous to Life or Health Concentrations  
ES: Exposure Standard  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index  
AIIIC: Australian Inventory of Industrial Chemicals  
DSL: Domestic Substances List  
NDSL: Non-Domestic Substances List  
IECSC: Inventory of Existing Chemical Substance in China  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
NLP: No-Longer Polymers  
ENCS: Existing and New Chemical Substances Inventory  
KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
TSCA: Toxic Substances Control Act  
TCSI: Taiwan Chemical Substance Inventory  
INSQ: Inventario Nacional de Sustancias Químicas  
NCI: National Chemical Inventory  
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

**Due to its relatively high viscosity this normally Packing Group II classified product has been re-assigned as Packing Group III in accordance with ADR section 2.2.3.1.4**

**Due to its relatively high viscosity this normally Packing Group II classified product has been re-assigned as Packing Group III in accordance with section 2.3.2.3 of the IMDG Code providing it is in receptacles of no greater than 30 litres**

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

**DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

