

Revision 3.1

Date Revised: 19<sup>th</sup> November 2008

conforms to Regulation (EC) no 1907/2006

### 1. Identification of the substance/preparation and company

**Product Name:** Flowfast F1 Resin

**Application:** Reactive resin based on methyl methacrylate.

**Manufacturer:**

Flowcrete SA (Pty) Ltd., 176 Voortrekker Street, Jacobs, Durban 4052

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### 2. Hazards Identification

**Highly flammable.**

**Irritating to respiratory system and skin.**

**May cause sensitisation by skin contact.**

Repeated and /or prolonged exposure may cause an allergic eczema reaction/sensitisation.

Once sensitised, an individual may produce an allergic reaction every time they are in contact with this material.

Special hazard notes for humans and the environment: -

The formation of a vapour/air mixture which can explode is possible. Also see sections 7, 8 and 10.

### 3. Composition/information on constituents

Chemical Name	EINECS No.	CAS No.	% by weight	Symbols and Risk Phrases
Methyl methacrylate	201-297-1	80-62-6	50 - 100	F; Xi; R11. R37/38. R43.
Ethoxylated paratoluidine	-	103671-44-9	2.5 - 10	Xn; R22. R41

### 4. First Aid measures

**General note:**

Remove the affected person from the hazardous area. Immediately remove contaminated or soaked clothing.

**After inhalation** Move to fresh air. If breathing has stopped or is laboured give assisted respiration (e.g. mouth to mouth). If symptoms persist seek medical advice.  
Prevent aspiration of vomit, turn victim's head to the side.

**After skin contact** Immediately wipe off the affected area with a paper towel, then clean with plenty of water and soap. If irritation persists or a rash develops, consult a physician.

**After eye contact** Hold eyelids apart and immediately flush with plenty of water for at least 15 minutes. If irritation persists, seek medical advice.

**After swallowing** Immediately seek medical advice. Do not induce vomiting (unless under medical supervision). If a person vomits when lying on his back, place him in the recovery position.

**Notes for the doctor** Sensitisation through skin contact possible.  
Symptomatic treatment, no specific antidote known.

### 5. Fire-fighting measures

**Suitable extinguishing agents:** water in mist, dry powder, carbon dioxide (CO<sub>2</sub>), foam

**Unsuitable extinguishing agent:** Full jet water

**Special hazards:**

Combustion and decomposition products lead to irritation or infection of the airways.

The formation of vapour / air mixtures which can lead to flame or explosion is possible.

Residues from fire and contaminated extinguishing agents must be disposed of according to the local official regulations.

**Special protective measures when fighting fires:** Wear self-contained breathing apparatus and heat resistant clothing which is resistant to chemicals.

**Additional notes:** In case of fire in the container, bring it away from the hazardous area and cool.

## 6. Accidental release measures

**Personal precautionary measures:** Avoid contact to the skin and eyes. Make sure there is sufficient ventilation. Remove all ignition sources. Use personal protective clothing.

**Environmental protection measures:** Do not allow materials to reach sewage water system, bodies of water or soil.

**Procedure for cleaning:** Remove all ignition sources. Take up larger amounts mechanically (observe explosion protection when pumping out), absorb smaller amounts with inert material (sand, diatomaceous earth, sawdust) and dispose of according to the local regulations – see section 13.

## 7. Handling and storage

**Handling, notes for safe handling:** Only use in well ventilated areas. If vapours occur, install ventilators or extraction (explosion proof) and put on breathing protection (see section 8). Vapours are 4x heavier than air, therefore extract from lower levels. Dangerous concentration of vapours in low-lying, open rooms is possible. Carefully open containers, they can be under pressure – especially if warm. Treat empty containers with the same caution as filled ones.

**Notes on fire and explosion protection:** Together with air, vapours can form a mixture which can explode. Keep away from all ignition and heat sources, do not smoke. Take measures against electrostatic charges (e.g. tools which will not cause sparks). Only use devices which are protected from explosion.

**Storage, requirements for storage rooms and containers:** Store the product in original containers – keep closed.

Store in dry, well-ventilated rooms with a maximum temperature of 25° C.

Protect from direct sunlight.

Provide a solvent resistant and leak proof floor.

Never fill the containers more than 80 % because the aerial oxygen is necessary for stabilising.

**Storage with other materials:** Do not store together with oxidising materials. Also see section 10. Store separate from foodstuffs.

## 8. Exposure controls/personal protection

**Components with WEL (Workplace Exposure Limits):**

CAS-No.	Material	8 hr TWA	15 min STEL
80-62-6	Methyl methacrylate	50 ppm (208 mg/m <sup>3</sup> )	100 ppm / 416 mg/m <sup>3</sup>

**Personal protective equipment, breathing protection:** Put on breathing protection device filter type A where the

ventilation or extraction is insufficient. For longer, more intensive exposure - especially in closed rooms - use breathing equipment which has an independent air supply.

**Hand protection:** Gloves.

Manufacturers list the following rupture protection times: -

butyl rubber = 60-120 minutes,

laminated gloves > 480 minutes.

Check gloves regularly for degradation/holes and replace as necessary.

Barrier creams may also be used.

**Eye protection:** Closely fitting safety goggles. Keep an eye wash bottle for rinsing the eyes available.

**Body protection:** Wear suitable protective clothing.

Store work clothing separately, immediately change and clean dirty clothing.

**Protection and hygiene measures:** Adhere to the normal cautionary measures for handling chemicals (do not eat, drink, smoke while working etc.). Also see point 7.

## 9. Physical and chemical properties

### Appearance:

Form: Fluid, middle viscosity

Colour: Colourless, clear to cloudy

Smell: Strong methyl methacrylate smell

### Information for the component methyl methacrylate:

pH-value	Not applicable	
Melt temperature:	-48 °C	BS 523, 1964
Boiling point:	100.3 °C	DIN 51751
Flashpoint:	11.5 °C	DIN 51755
Ignition temperature:	430 °C	DIN 51794
Lower explosion limit:	2.1 Vol. %	
Higher explosion limit:	12.5 Vol. %	
Vapour pressure at 20°C:	38.7 mbar	
Solubility in water at 20°C:	15.9 g/l	
Distribution coefficient (n-octanol/water)	1.38 log POW	

### Information for preparation:

Density at 25°C:	0.94 g/cm <sup>3</sup>	DIN 53217
Viscosity at 25°C:	< 1 mPa*s	DIN 53018

## 10. Stability and reactivity

**Conditions to be avoided** Temperatures of > 25°C, direct sunlight, poor ventilation, sources of ignition in the area.

**Materials to be avoided** Strong oxidisers, heavy metal compositions and reducing agents. such as peroxides, amines, azoic compositions.

### Further information

The formation of a vapour/air mixture which can explode is possible.

There is a tendency to strong exothermal polymerisation when warming and with contact to the materials listed to be avoided.

Danger of bursting in closed containers through pressure build up.

The product is delivered with sufficient stability, but if there is a suspicion of polymerisation due to storage or handling which is not appropriate, this process can be disrupted by mixing with stabilizers (e.g. Flowfast 403) and cooling the container.

## 11. Toxicological information

Data on the preparation are not available.

methyl methacrylate:

Acute Oral Toxicity, LD<sub>50</sub> (rat) 7872 mg/kg. Inhalation, LC<sub>50</sub> (rat) 3750 ppm.

The product has an irritating effect on the skin, eyes, mucosa and respiratory tract.

Air contamination leads to odour annoyance. Odour threshold value is 0.05 ppm.

Sensitisation is possible with contact to the skin, producing an allergic eczema reaction .

Pregnancy group Y (no risk of developmental disorders if the OES value is adhered to).

There is no evidence of permanent damage through handling of this material.

## 12. Ecological information

Information for the component methyl methacrylate.

**Persistence and degradability:** biologically readily biodegradable, OECD 301 C, 14 d, 94 %

**Ecotoxicity:** Methyl methacrylate  
LC<sub>50</sub>/96hr/rainbow trout = 79 mg/l.  
EC<sub>50</sub>/48hr/daphnia magnus = 69 mg/l.

**Further information:** Vapours in air lead to odour annoyance as the odour threshold for methyl methacrylate is only 0.5ppm.  
Ecotoxicological tests on the product are not available.  
Do not allow the product to enter soil, waste waters or waterways.

## 13. Disposal considerations

**Unused Product/waste from cleaning etc.** : Dispose in compliance with local and national regulations.  
Use EC Waste Catalogue (EWC) code: 08 01 11\* (a hazardous waste).

**Contaminated packaging** : Partially filled containers shall be disposed as for the product above.  
If the container has been used for mixing with the Catalyst, it can be disposed of as non-hazardous packaging waste.  
Remove/invalidate the warning label.  
Use EWC Code: 150104 for metal, 150102 for plastic.

Well drained containers, not used for mixing with the catalyst, shall be disposed of as hazardous packaging waste. Use EWC Code 150110\*.

## 14. Transport information

**Proper shipping name:** **Methyl Methacrylate monomer, stabilized.**

**UN No:** 1247

**ADR/RID** Flashpoint 11.5 °C  
**Class** : 3 **Item No** : 31(c)  
**HI No** : 339 **Packing Group** : II

**IMO**  
**Class** : 3 **Marine Pollutant** : no  
**Packing Group** : II Flashpoint 11.5 °C

**IATA**  
**Class** : 3 Flashpoint 11.5 °C  
**Packing Group** : II

## 15. Regulatory information

Classification according to EEC directive:

Symbols:



Xi - Irritant



F – Highly Flammable

R-phrases :

- R11 : Highly flammable
- R37/38 : Irritating to respiratory system and skin
- R43 : May cause sensitisation by skin contact.

S-phrases :

- S9 : Keep container in a well-ventilated place.
- S16 : Keep away from sources of ignition – No smoking
- S24 : Avoid contact with skin
- S29 : Do not empty into drains.
- S33 : Take precautionary measures against static discharges
- S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.

Special provisions statement : None.

Hazardous component(s) which must be listed on the label : Methyl methacrylate.

EC Directives: Dangerous Substances Directive, 67/548/EEC & adaptations  
Dangerous Preparations Directive, 88/379/EEC  
Safety Data Sheets Directive, 91/155/EEC

Statutory Instruments: Chemicals (Hazard Information & Packaging for Supply) Regs 2002.  
Control of Substances Hazardous to Health Regs 2002  
Environmental Protection (Duty of Care) Regs. 1991.

Codes of Practice Waste Management. The Duty of Care.  
Approved classification and labelling guide (Fifth edition). L131.  
The compilation of safety data sheets (Third edition).

Guidance Notes Occupational Exposure Limits EH40  
CHIP for Everyone HSG(108)

## 16. Other Information

The text has changed in Sections 1, 2, 3, 7, 8 and 13.  
This safety data sheet has been prepared in accordance with REACH.  
This is in addition to the Health and Safety at Work Act 1974.

Users of our products should take appropriate measures to ensure working practices are in accordance with the Control of Substances Hazardous to Health Regulations (COSHH).

This data sheet does not replace the obligation of the user to provide their own assessment of workplace risk as required by other Health & Safety legislation.

EC Directive relating to the classification, packaging and labelling of dangerous substances and preparations – Classification(s) and Risk (R) phrase(s) referred to in this document:

- Xi : Irritant
- Xn : Harmful
- F : Highly Flammable
- R11 : Highly Flammable.
- R22 : Harmful if swallowed.
- R37/38 : Irritating to respiratory system and skin.
- R41 : Risk of serious damage to eyes.
- R43 : May cause sensitisation by skin contact.

### **Training Advice**

Applicators need to be trained in:-

Handling and hygiene associated with use of industrial chemicals and flammable materials.

Correct mixing and application of the product.

Correct cleaning and disposal methods.

### **Restrictions on Use**

The product is intended for use by appropriately trained applicators in industrial situations. It is not suitable for use in home DIY applications, especially because of its hazardous nature and the protective measures required.

### **Notes**

Do not use organic solvents for skin cleansing, it will lead to defatting of the skin, skin irritation and/or dermatitis.

Some solvents can be absorbed through the skin.

Beware of cross contamination where different products are in use in the same location.

This safety data sheet is based on our present knowledge and experience and is intended to serve as a guide for safe handling of the product regarding to health and environmental aspects.