

TYPICAL APPLICATIONS

PC 16 is specially formulated for the bonding of plastics, rubbers, wood, paper, cardboard, leather, metals and other common substrates. PC 16 relies less on surface moisture for cure speed than standard cyanoacrylates.

PC 16 has excellent gap-filling capability.

PRODUCT DESCRIPTION

PC 16 is a high viscosity modified Ethyl Cyanoacrylate adhesive. PC 16 is suitable for bonding a very wide range of materials, including many porous ones, where a fast cure speed is required.

PROPERTIES OF UNCURED MATERIAL

Chemical type		Ethyl
Appearance		Clear
Specific Gravity		1.08
Viscosity cPs ¹		
– range		1275-1650
– typical value		1500
Tensile Strength ²	(N/mm ²)	21
Fixture Time	(secs)	5-60
Full Cure	(hours)	24
Flash Point	(°C)	> 85
Shelf Life @ 5°C	(months)	12
Max Gap Fill	(mm)	0.20
Operating Temperature Range	(°C)	-50 to +80

¹ Brookfield LVF, spindle 3, 30rpm

² ISO 6922

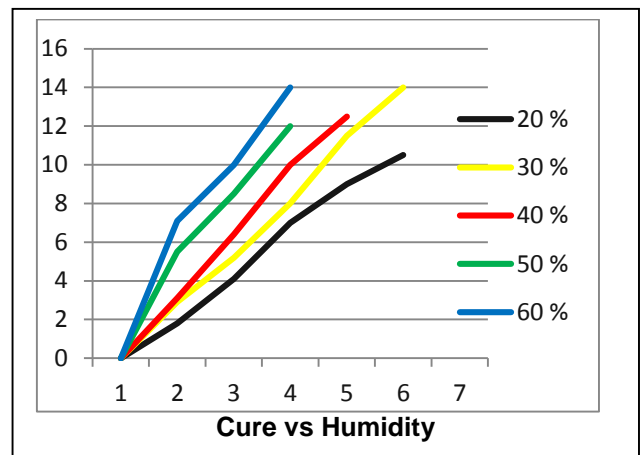
Cure speed vs. environmental conditions

Cyanoacrylates require surface moisture on the substrates in order to initiate the curing mechanism. The speed of cure is reduced in low-humidity conditions. Low temperatures will also reduce cure speed. All figures relating to cure speed are tested at 21°C.

TYPICAL CURING PERFORMANCE

Typical Speed:

Steel/steel	<60 seconds
ABS/ABS	<20 seconds
Rubber/Rubber	<15 seconds
Wood (balsa)	<3 seconds



Cure speed vs. substrate

The speed of cure of Cyanoacrylates varies according to the substrates to be bonded. Acidic surfaces such as paper and leather will have longer cure times than most plastics and rubbers. Some plastics with very low surface energies, such as polyethylene, polypropylene and Teflon® require the use of Procure 77 Primer (see PC 77 TDS for further info).

Cure speed vs. activator

Activators 780 and 750 may be used in conjunction with cyanoacrylates where cure speed needs to be accelerated.

Cure speeds of less than 2 seconds can be obtained with most cyanoacrylates.

The use of an activator can reduce the final bond strength by up to 30% Testing on the parts to measure the effect is recommended.

Cure speed vs. bond gap

PROCURE/REACT Cyanoacrylates give best results on close fitting parts. The product should be applied in a very thin line in order to ensure rapid polymerisation and a strong bond. Excessive bond gaps will result in slower cure speeds. PROCURE / REACT Cyanoacrylate Activators may be used to greatly increase cure speeds (see PC780 and PC750 TDS for further info).

TYPICAL ENVIRONMENTAL RESISTANCE HOT STRENGTH

PROCURE/REACT cyanoacrylates are suitable for use at temperatures up to 80°C. At 80°C the bond will be approximately 70% of the strength at 21°C. The bond strength at 100°C is approximately 50% of full strength at 21°C.

MAINLINE MOULDINGS LTD

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PC 16
 V1.2
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Chemical / Solvent Resistance

Cyanoacrylates exhibit excellent chemical resistance to most oils and solvents including motor oil, leaded petrol, ethanol, propanol and freon.

Cyanoacrylates are **not** resistant to high levels of moisture or humidity over time.

STORAGE

Store in a cool area out of direct sunlight. Refrigeration to 5° C gives optimum storage stability.

REMOVAL OF CURED CYANOACRYLATE

Cured cyanoacrylate may be removed from most substrates, and parts disassembled, with a Debonder.

It is not possible to fully remove cyanoacrylate from fabrics

PRESENTATION

Cyanoacrylates are supplied in 20g,50g,500g and bulk packs

DIRECTIONS FOR USE

Bond speed is very fast so ensure that parts are properly aligned before bonding.

Activators may be required if there are gaps or porous surfaces. Some plastics may require application of Primer.

Ensure parts are clean, dry and free from oil and grease.

Product is normally hand applied from the bottle. Apply sparingly to one surface and press parts firmly together until handling strength is achieved. As a general rule, as little cyanoacrylate as possible should be used – over application will result in slow cure speed and lower bond strength.

Please contact your representative for further advice on dispensing solutions.

GENERAL INFORMATION

For safe handling of this product consult the Material Safety Data Sheet.

NOTES AND DISCLAIMER

The information contained herein is produced in good faith and is believed to be reliable but is for guidance only. Mainline Mouldings Ltd. and its agents cannot assume liability or responsibility for results obtained in the use of its product by persons whose methods are outside or beyond our control. It is the user's responsibility to determine the suitability of any of the products and methods of use or preparation prior to use mentioned in our literature and furthermore the user's responsibility to observe and adapt such precautions as may be advisable for the protection of personnel and property in the handling and use of any of our products.

SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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PROCURE PC16

Revision 0

Revision date 2012-11-19

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

1.1. Product identifier

Product name	PROCURE PC16
CAS No.	7085-85-0
EC No.	230-391-5
Index No.	607-236-00-9

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

Description	Mainline Mouldings LTD
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1.3. Details of the supplier of the safety data sheet


Company Address	Mainline Mouldings LTD Unit 83 Langar Industrial Estate Harby Road Langar Nottingham NG13 9HY United Kingdom
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification - 67/548/EEC	Xi; R36/37/38 Symbols: Xi: Irritant.
Main hazards	Irritating to eyes, respiratory system and skin.
2.1.2. Classification - EC 1272/2008	STOT SE 3: H335;

2.2. Label elements

Hazard pictograms	
Signal Word	Warning
Hazard Statement	Skin Irrit. 2: H315 - Causes skin irritation. Eye Irrit. 2: H319 - Causes serious eye irritation. STOT SE 3: H335 - May cause respiratory irritation.
Precautionary Statement: Prevention	P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary Statement:
Response**

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

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2.2. Label elements

Precautionary Statement: Storage	lenses, if present and easy to do. Continue rinsing. P312 - Call a POISON CENTER or doctor/physician if you feel unwell. P321 - Specific treatment (see on this label). P332+P313 - If skin irritation occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get
	P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up.
	P501 - Dispose of contents/container to
Precautionary Statement: Disposal	

SECTION 3: Composition/information on ingredients

3.1. Substances

67/548/EEC / 1999/45/EC

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
ethyl-2-cyanoacrylate. (Ethyl cyanoacrylate)	607-236-00-9	7085-85-0	230-391-5		80 - 100%	Xi; R36/37/38
1,4-Dihydroxybenzene (Hydroquinone)	604-005-00-4	123-31-9	204-617-8		0 - 0.1%	Carc. Cat. 3; R40 Muta. Cat. 3; R68 Xn; R22 Xi; R41 R43 N; R50

EC 1272/2008

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ethyl-2-cyanoacrylate. (Ethyl cyanoacrylate)	607-236-00-9	7085-85-0	230-391-5		80 - 100%	STOT SE 3; H335;
1,4-Dihydroxybenzene (Hydroquinone)	604-005-00-4	123-31-9	204-617-8		0 - 0.1%	Carc. 2: H351; Muta. 2: H341; Acute Tox. 4: H302; Eye Dam. 1: H318; Skin Sens. 1: H317; Aquatic Acute 1: H400;

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air.
Eye contact	Rinse immediately with plenty of water for 15 minutes holding the eyelids open.
Skin contact	Wash off immediately with plenty of soap and water. Remove contaminated clothing.
Ingestion	DO NOT INDUCE VOMITING.

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

Inhalation	Irritating to respiratory system. Inhalation may cause coughing, tightness of the chest and irritation of the respiratory system.
Eye contact	Irritating to eyes.
Skin contact	Irritating to skin.
Ingestion	Ingestion may cause nausea and vomiting.

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

Inhalation	Seek medical attention if irritation or symptoms persist.
Eye contact	Seek medical attention if irritation or symptoms persist.
Skin contact	Seek medical attention if irritation or symptoms persist.
Ingestion	Seek medical attention if irritation or symptoms persist.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Carbon oxides.

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5.2. Special hazards arising from the substance or mixture

Burning produces irritating, toxic and obnoxious fumes.

5.3. Advice for firefighters

Wear suitable respiratory equipment when necessary.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation of the working area. Wear suitable protective equipment.

6.2. Environmental precautions

Do not allow product to enter drains. Prevent further spillage if safe.

6.3. Methods and material for containment and cleaning up

Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.

6.4. Reference to other sections

See section 3, 8, 13 for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labelled containers.

7.3. Specific end use(s)

Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Exposure Limit Values

1,4-Dihydroxybenzene (Hydroquinone)	WEL 8-hr limit ppm: -	WEL 8-hr limit mg/m3: 0.5
	WEL 15 min limit ppm: -	WEL 15 min limit mg/m3: -
PROCURE PC16 (Ethyl cyanoacrylate)	WEL 8-hr limit ppm: -	WEL 8-hr limit mg/m3: -
	WEL 15 min limit ppm: 0.3	WEL 15 min limit mg/m3: 1.5

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Ensure adequate ventilation of the working area.

8.2.2. Individual protection measures

Wear chemical protective clothing.

Eye / face protection

Approved safety goggles.

Skin protection - Handprotectio

Chemical resistant gloves.

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Wear: Suitable respiratory equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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9.1. Information on basic physical and chemical properties

State	Liquid	Colour	Colourless
Characteristic	Odourless		
pH	No data available		
Melting point	≈ -31 °C		
Freezing Point	≈ -71 °C		
Boiling point	≈ 214 °C		
Flash point	≈ 85		
Evaporation rate	No data available		
Flammability limits	Not applicable.		
Vapour Flammability	Not applicable.		
Vapour pressure	≈ 21 Pa		
Vapour density	No data available		
Relative density	1.045 (Water = 1 @ 20 °C)		
Fat Solubility	No data available		
Partition coefficient	No data available		
Autoignition temperature	450 °C		
Viscosity	≈ 1200 mPas (Cone & Plate)		
Explosive	No data available		
Oxidising	No data available		
Solubility	Immiscible in water		

9.2. Other information

Conductivity	No data available
Surface tension	No data available
Gas group	Not applicable.
Benzene Content	No data available
Lead content	No data available
VOC (Volatile organic compounds)	No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Avoid contact with: Alkalis, Bases, Strong bases, Water.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

May polymerize.

10.4. Conditions to avoid

Heat. Moisture. Bases.

10.5. Incompatible materials

Alkalis. Bases. Water.

10.6. Hazardous decomposition products

Burning produces obnoxious and irritating fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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Acute toxicity	May cause allergic reactions in susceptible people.
Skin corrosion/irritation	May cause irritation to skin.

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11.1. Information on toxicological effects

Respiratory or skin sensitisation	May cause allergic reactions in susceptible people.
Germ cell mutagenicity	No data is available on this product.
Carcinogenicity	No carcinogenic effects reported.
Reproductive toxicity	No data is available on this product.

11.1.4. Toxicological Information

PROCURE PC16	Oral Rat LD50: >5000 mg/kg	Dermal Rabbit LD50: >2000 mg/kg
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SECTION 12: Ecological information

12.1. Toxicity

	No data available
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12.2. Persistence and degradability

	No data is available on this product.
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12.3. Bioaccumulative potential

	No data is available on this product.
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12.4. Mobility in soil

	No data is available on this product.
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12.5. Results of PBT and vPvB assessment

	No data is available on this product.
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12.6. Other adverse effects

	No data is available on this product.
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SECTION 13: Disposal considerations

General information

	Dispose of in compliance with all local and national regulations.
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Disposal methods

	Contact a licensed waste disposal company.
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Disposal of packaging

	Do NOT reuse empty containers. Empty containers can be sent for disposal or recycling.
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Further information

	For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.
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SECTION 14: Transport information

Hazard pictograms

14.1. UN number

	UN3334
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14.2. UN proper shipping name

	AVIATION REGULATED LIQUID, N.O.S.
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14.3. Transport hazard class(es)

ADR/RID	9
Subsidiary risk	-
IMDG	9
Subsidiary risk	-
IATA	9
Subsidiary risk	-

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14.3. Transport hazard class(es)	
IMDG	9
Subsidiary risk	-
IATA	9
Subsidiary risk	-
14.4. Packing group	
Packing group	-
14.5. Environmental hazards	
Environmental hazards	No
Marine pollutant	No
ADR/RID	
Hazard ID	-
IMDG	
EmS Code	-
IATA	
Packing Instruction (Cargo)	964
Maximum quantity	220 L
Packing Instruction (Passenger)	964
Maximum quantity	100 L
Further information	
	The product is not classified as dangerous for carriage.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Regulations	<p>COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.</p> <p>REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.</p>
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15.2. Chemical safety assessment

	No data is available on this product.
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SECTION 16: Other information**Other information**

Text of risk phrases in Section 3	<p>R22 - Harmful if swallowed.</p> <p>R36/37/38 - Irritating to eyes, respiratory system and skin.</p> <p>R40 - Limited evidence of a carcinogenic effect.</p> <p>R41 - Risk of serious damage to eyes.</p> <p>R43 - May cause sensitisation by skin contact.</p> <p>R50 - Very toxic to aquatic organisms.</p> <p>R68 - Possible risk of irreversible effects.</p>
Text of Hazard Statements in Section 3	<p>Skin Irrit. 2: H315 - Causes skin irritation.</p> <p>Eye Irrit. 2: H319 - Causes serious eye irritation.</p>

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Other information

STOT SE 3: H335 - May cause respiratory irritation.
Acute Tox. 4: H302 - Harmful if swallowed.
Skin Sens. 1: H317 - May cause an allergic skin reaction.
Eye Dam. 1: H318 - Causes serious eye damage.
Muta. 2: H341 - Suspected of causing genetic defects .
Carc. 2: H351 - Suspected of causing cancer .
Aquatic Acute 1: H400 - Very toxic to aquatic life.

Further information

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. 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 other process.