

# Product Information



**LUBRITECH**  
Special Application Lubricants

Sheet reference: 02031TDS210108

1 of 3

## Product: **POLYBUTYLCUPRYSIL® (PBC®)** TECHNICAL DATA SHEET

### DESCRIPTION:

**PBC®** is a golden coloured compound formed by a combination of high performance lubricating solids, high molecular weight polymers and soft non-ferrous metallic powders. It does not include soaps, silicones or metallic lead.

**PBC®** is suitable for use as a non-melt extreme pressure lubricant between slow moving surfaces and as a grease at temperatures up to 150° C. Above these temperatures and at temperatures up to 1200° C **PBC®** forms oxide compounds that are effective as parting agents.

### TYPICAL USE:

#### Threaded Fastenings:

**PBC®** is a torque equalisation compound and anti-seize, for pre-stressed bolts, studs and threaded components. The co-efficient of friction is typically 0.1 @ 20° C.

Independent testing is recommended.

#### Plain Bearings, Pivots, Trips & Slow Moving Mating Surfaces:

**PBC®** is a protective grease that acts as a lubricating seal to prevent the ingress of water and corrosive solutions. It may also be used as a jointing compound on the joint faces of covers and gaskets.

#### Plain Bearings & Splined Shafts (Vibration & high temperatures):

**PBC®** is an anti-fretting medium where relative movement between plain bearing surfaces is of a low magnitude. Examples of such conditions are found on:

- internal surfaces of cement kiln live rings
- braking mechanisms
- bearing sleeves/rings and housings
- splined shafts and serrations
- geared / toothed couplings.

Reference – Typical Summary of SRV Test.

#### Roller Bearings (oscillating):

**PBC®** acts as an anti-fretting medium in rolling element bearings subjected to vibration and small oscillating movements. Such bearings are found in variable pitch blade fans, universal joints / cardan shafts, and the “king-pin” thrust bearings of heavy vehicles. The bearing housings must be completely filled with **PBC®**.

#### Roller Bearings (rotating):

**PBC®** is designed for use as a protective high temperature non-drip/non-melt lubricant for re-greasable conveyor trolley wheel bearings and chain rollers with re-greasable rolling bearings. It can be safely used in conveyor bearings operating over “phosphating” plants and has no deleterious effect on either hot or low temperature acid phosphate solutions. Reference – Typical Data.

### METHOD OF APPLICATION:

- (a) **PBC®** can be applied by spatula, by hand and with air assisted grease guns and pumps.

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While the information and figures given here are typical of current production and conform to specification, minor variations may occur. No warranty expressed or implied is given concerning the accuracy of the information or the suitability of the products

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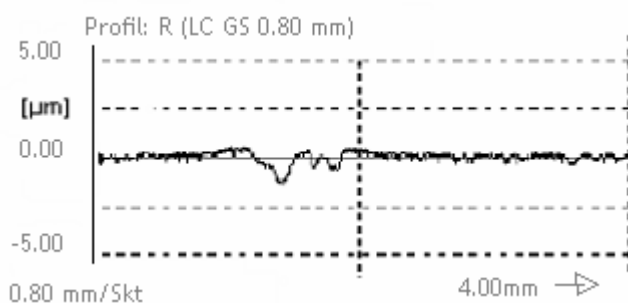


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<u>Specification</u>			<u>Typical Value</u>
Operating Temperatures (as a grease)	-	Continuous(*) rotation or oscillation	up to 150° C
Operating Temperatures (as anti-seize and anti-fretting)	-	-	Generated residual oxides effective up to 1200° C
Coefficient of Friction (see Graph below)	Fretting Wear Test DIN 51834-1	SRV	0.1
Penetration	IP50/88	Unworked	210 - 280
Drop Point	IP132/85	(Non-melt)	Not applicable
Copper Corrosion	IP112/56	(No corrosion)	Negative (1a?)
Four Ball Test	IP239/85	Mean Hertz Load Weld Load	55 kg 400 kg
Water Washout	IP215/85 ASTM D2164	38° C	None detected

\*'Continuous' does not imply lubrication for life. Bearings lubricated with PBC® will require periodic replenishment

## SRV EXTREME FRETTING WEAR TEST:



Newtons (Load)	= 200 N
Amplitude	= 1000 µm
Frequency	= 50 Hz
Temperature	= 50 °C
Duration	= 60 mins
Ball Diameter	= 0.59 mm
Avg Co-efficient of Friction (µ)	= 0.11
Wear Scar Depth Pt (µm)	= 2.12
Surface Roughness Rt (µm)	= 1.89
Centreline Roughness av Ra (µm)	= 0.12
Material Removed	= 13.63 (x10 <sup>-4</sup> ) mm <sup>3</sup>

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## MILD STEEL RESULTS:

	ONE DAY	ONE WEEK	TWO WEEKS	FOUR WEEKS
Water- Synthetic, Tap & Distilled				
1% Aqueous Solution of Synthetic Detergent (REX)				
10% Aqueous Solution of Sodium Carbonate				
Sodium Silicate (Pyramid)				
1% Aqueous Solution of Caustic Soda Pellets				
5% Aqueous Solution of Caustic Soda Pellets				
Sulphuric Acid Fumes (by boiling sulphuric acid for 30 mins)				
Nitric Acid Fumes				
1% & 5% Aqueous Ammonia Solution				
10% Aqueous Solution of Sulphuric Acid				
50% Aqueous Solution of Sulphuric Acid				
10% conc. HCl Aqueous Solution				
25% Aqueous Solution of Ortho-Phosphoric Acid				
50% Aqueous Solution of HCl				
10% Aqueous Solution Nitric Acid				

No corrosion & No adverse reaction  
Moderate  
Severe

KEY:

## SHELF LIFE:

Indefinite if unopened. Oil might separate over prolonged storage, but this can be stirred in or disregarded as preferred

## HEALTH & SAFETY:

PBC is not classified as hazardous to health, does not contain SVHCs and is REACH-ready. A GHS-compliant safety datasheet is available upon request.

Last Revised 14.08.09

Health, Safety and Environment - information is provided for products in the relevant Safety Data Sheet. This provides guidance on potential hazards, precautions and first-aid measures, together with environmental effects and disposal of used products.

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