

Oak Palm Base 4050

High performance ester TMPTO lubricant base fluid

Oak Palm Base 4050 is an ISO 46, low viscosity, Group V, trimethylolpropane ester with superior lubricating properties, high viscosity index, excellent hydrolytic and oxidative stability. Synthesised from natural oils, Oak Palm Base 4050 is renewable and biodegradable.

Typical Characteristics

Measurement Unit Typical value Visual appearance Clear liquid Colour Lovibond 5 1/4" cell 3.0-0.3 Density @ 20°C g/ml 0.910 Kinematic viscosity @ 40°C mm²/s 4.6 Kinematic viscosity @ 100°C mm²/s 9.5 Viscosity index 196 Acid value mg KOH/g 0.4 Saponification value mg KOH/g 180 Iodine value gl/100g 82 Hydroxyl value mg KOH/g 10 Cloud point °C -15 Pour point °C -45 Flash point (COC) °C 318 Oxidation stability (RBOT) minutes 17 Weld load (ASTM D-2783) Kg 20 Wear scar diameter at 392N (ASTM D-4172) mm 0.638 Copper Corrosion (ASTM D-130) mm 0.638 Foam property ml/ml 0.6 Sequence II 0,0 0.7 Sequence III % 0.5 <th>Typical Characteristics</th> <th></th> <th></th>	Typical Characteristics		
Colour Lovibond 5 1/4" cell 3.0-0.3 Density @ 20°C g/ml 0.910 Kinematic viscosity @ 40°C mm²/s 46 Kinematic viscosity @ 100°C mm²/s 9.5 Viscosity index 196 Acid value mg KOH/g 0.4 Saponification value mg KOH/g 180 Iodine value gl/100g 82 Hydroxyl value mg KOH/g 10 Cloud point °C -15 Pour point °C -45 Flash point (COC) °C 318 Oxidation stability (RBOT) minutes 17 Weld load (ASTM D-2783) Kg 200 Last non-seizure load (ASTM D-2783) Kg 50 Wear scar diameter at 392N (ASTM D-4172) mm 0.638 Copper Corrosion (ASTM D-130) mm 0.638 Sequence I 0/0 Sequence II 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 %	Measurement	Unit	Typical value
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Cloud point °C -15 Pour point °C -45 Flash point (COC) °C 318 Oxidation stability (RBOT) minutes 17 Weld load (ASTM D-2783) Kg 200 Last non-seizure load (ASTM D-2783) Kg 50 Wear scar diameter at 392N (ASTM D-4172) mm 0.638 Copper Corrosion (ASTM D-130) 1b Foam property ml/ml	Iodine value	gl/100g	82
Pour point °C -45 Flash point (COC) °C 318 Oxidation stability (RBOT) minutes 17 Weld load (ASTM D-2783) Kg 200 Last non-seizure load (ASTM D-2783) Kg 50 Wear scar diameter at 392N (ASTM D-4172) mm 0.638 Copper Corrosion (ASTM D-130) 1b Foam property ml/ml 5equence I Sequence II 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % < 1.0	Hydroxyl value	mg KOH/g	10
Flash point (COC) °C 318 Oxidation stability (RBOT) minutes 17 Weld load (ASTM D-2783) Kg 200 Last non-seizure load (ASTM D-2783) Kg 50 Wear scar diameter at 392N (ASTM D-4172) mm 0.638 Copper Corrosion (ASTM D-130) 1b Foam property ml/ml 50 Sequence I 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % < 1.0	Cloud point	°C	-15
Oxidation stability (RBOT) minutes 17 Weld load (ASTM D-2783) Kg 200 Last non-seizure load (ASTM D-2783) Kg 50 Wear scar diameter at 392N (ASTM D-4172) mm 0.638 Copper Corrosion (ASTM D-130) 1b Foam property ml/ml 50 Sequence I 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % < 1.0	Pour point	°C	-45
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Last non-seizure load (ASTM D-2783) Kg 50 Wear scar diameter at 392N (ASTM D-4172) mm 0.638 Copper Corrosion (ASTM D-130) 1b Foam property ml/ml 50 Sequence I 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % <1.0	Oxidation stability (RBOT)	minutes	17
Wear scar diameter at 392N (ASTM D-4172) mm 0.638 Copper Corrosion (ASTM D-130) 1b Foam property ml/ml Sequence I 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % <1.0	Weld load (ASTM D-2783)	Kg	200
Copper Corrosion (ASTM D-130) 1b Foam property ml/ml Sequence I 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % <1.0 Renewability % 100	Last non-seizure load (ASTM D-2783)	Kg	50
Foam property ml/ml Sequence I 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % <1.0	Wear scar diameter at 392N (ASTM D-4172)	mm	0.638
Sequence II 0/0 Sequence III 0/0 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % <1.0	Copper Corrosion (ASTM D-130)		1b
Sequence III 0/0 Sequence III % ≤ 75 C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % <1.0	Foam property	ml/ml	
Sequence III 0/0 C18:1 % \leq 75 C18:2 % \geq 13 C18:3 % $<$ 1.0 Renewability % 100	Sequence I		0/0
C18:1 % ≤ 75 C18:2 % ≥ 13 C18:3 % <1.0	Sequence II		0/0
C18:2 % ≥ 13 C18:3 % <1.0	Sequence III		0/0
C18:3 % <1.0 Renewability % 100	C18:1	%	≤ 75
Renewability % 100	C18:2	%	≥ 13
	C18:3	%	<1.0
Biodegradability OECD 301B % 100 – 12 day period	Renewability	%	100
	Biodegradability OECD 301B	%	100 – 12 day period

Oak Chemicals

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Oak Palm Base 4050

Features and benefits

Features	Benefit	
Biodegradability	Compliance with local environmental regulation	
Effective at low treat rates	Efficient formulations	
Good lubricity	Improved surface finish, increased efficiency	
High viscosity index	Temperature stability	
High flash point	Safer operation	
Hydrolytic stability	Longer life, increased productivity	
Low misting	Healthier operation environment	
High renewability content	Reduced impact on limited natural resources	

Applications and recommended uses

Oak Chemicals recommends this product is used at the following typical treat rates:

Ferrous metal rolling oil: 5 - 90%
Hydraulic fluid: up to 98%
Fire resistant hydraulic fluid: up to 98%
Air compressors: up to 99%
Metalworking fluids – neat and water soluble cutting and grinding: 5 - 90%

Metalworking fluids – neat and water soluble drawing and stamping: 5 – 90%

Sales and technical support

With experience working with lubricant industry formulators, Oak Chemicals technical specialists are able to offer expertise and support in selecting the most effective products for your application. For further or advice, please contact your local Oak Chemicals sales office, visit our website www.oakchemicals.com or email management@oakchemicals.com

For complete safety, health, personnel protection and first aid information, refer to the Material Safety Data Sheet (MSDS) which can be requested by website or phone Oak Chemicals.

Non-warranty

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