



ILCO Chemikalien GmbH

ILCO LUBE/Additives

Lubricant/Metal Working Selection Guide

ILCO LUBE – Esters & Alcohols

The ILCO LUBE product range covers various esters, additives and antifoaming agents. All products are characterised by high performance and a good compatibility with additives in formulations. Some Mono- and Diesters have outstanding low-temperature characteristics and are therefore suitable for the production of very low-temperature lubricants. Biologically low degradable and hydrolytically stable products with excellent lubrication characteristics are used with great success in water-miscible concentrates for metal working.

Polyalkylene glycols (PAGs) are used in lubricants and metal working fluid and can be found in our ILCO PAG brochures.

Product	Function	Viscosity* 40 °C [mm ² /s]	Pourpoint* [°C]	Density* 20 °C [g/cm ³]	TAN* [mg KOH/g]	Iodine Number* [gI ₂ /100g]	Lubricant Applications							Metal Working			
							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
Mono Ester																	
ILCO LUBE 2205 Fatty Acid Ester, Epoxidized	Emu	27 mPas (20 °C)	-24	~0.91	-	<5.0					X				X		
ILCO LUBE 2206 Fatty Acid Ester, Ethoxylated	-	308 mPas (20 °C)	-15	~0.96	-	27-37					X	X					
ILCO LUBE 2302 Isotridecyl Stearate	FM	15-17	<7	~0.86	<0.5	<2.0							X	X			
ILCO LUBE 2303 Fatty Acid C12, Methylester	-	-	-	-	<1.0	<1.0										X	
ILCO LUBE 2305 Rapeseed Methylester	-	3-5	-6	~0.88	<0.5	50-65					X		X				
ILCO LUBE 2308 Fatty Acid C12-14, Methylester	-	-	-	~0.87	<1.0	<1.0										X	
ILCO LUBE 2310 Isobutyl Stearate	-	8-11 mPas (20 °C)	<19	~0.85	<0.5	<2.0							X	X		X	
ILCO LUBE 2316 Glycerol Monooleate	-	60-95	<10	~0.95 (30 °C)	<6.0	65-95	-/X	X/-			X		X	X			

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
ILCO LUBE 2317 Glycerol Monostearate	-	-	-	-	<3.0	<2.0					X						
ILCO LUBE 2320 Isobutyl Tallowate	-	6-8	<4	~0.86	<1.0	40-54							X	X			
ILCO LUBE 2324# 2-Ethylhexyl Oleate #vegetable or animal source	FM	7-12	<-20	~0.87	<1.0	55-71	X/-			X				X	X		
ILCO LUBE 2325# 2-Ethylhexyl Cocoate #different C-cuts available	-	<8.0	<-20	~0.86	<1.0	<20.0				X				X	X		
ILCO LUBE 2330 2-Ethylhexyl Palmitate	FM	7-9	-	~0.86	<0.5	<2.0								X	X		
ILCO LUBE 2331 2-Ethylhexyl Laurate	-	-	-	~0.86	<1.0	<1.0										X	
ILCO LUBE 2340 2-Ethylhexyl Tallowate	FM	7-10	<-6	~0.86	<0.5	34-48								X	X		
ILCO LUBE 2351 Stearyl Stearate	-	-	-	~0.81 (70 °C)	<1.0	<1.0					X						
ILCO LUBE 2352 Oleyl Oleate	-	-	-	~0.87	<0.5	90-100					X						
ILCO LUBE 2355 n-Butyl Stearate	-	6-8 mPas (30 °C)	<23	~0.86	<1.0	<1.0								X	X		X
ILCO LUBE 2375 2-Ethylhexyl Stearate	-	10-18 (20 °C)	<15	~0.86	<1.0	<1.0								X	X		
ILCO LUBE 2380 Sorbitan Monooleate	-	-	-	0,915	<8.0	62- 76								X			
ILCO LUBE 4820 Isodecyl Pelargonate	-	~5	<-75	~0.86	<0.1	<2.0		X/X	X								

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing										
Di Ester																											
ILCO LUBE 1380 TEG-Di-2-Ethylhexanoate	-	16.4 mPas (20°C)	-	0,96	-	-									X												
ILCO LUBE 2350 PE-Dioleate	-	-	<-15	~0.94	<2.0	>80		X/-		X					X												
ILCO LUBE 2400 NPG-Dioleate	-	20-28	-30	~0.88	<3.0	-				X					X		X					X			X		
ILCO LUBE 2405 Propylene Glycol Diester	-	~18.9	-15	~0.89	-	~88									X	X											
ILCO LUBE 4810 Di-Isodecyl Adipate	-	3-5 (100 °C)	<-50	-	<0.2	<1.0	-/X	X/-	X	X																	
ILCO LUBE 4813 Di-Isodecyl Adipate	-	24-28	<-54	-	<0.1	<1.0	-/X	X/-		X						X											
ILCO LUBE 4850 Di-2-Ethylhexyl Sebacate	-	10.5-12.5	<-70	~0.91	<0.2	<0.3	-/X	X/-	X																		
ILCO LUBE 4860 Di-Isotridecyl Adipate	-	23-29	<-50	~0.91	<0.1	<1.0	X/X	X/X		X						X											
ILCO LUBE 4861 Di-2-Propylheptyl Adipate	-	10-13	-75	~0.92	<0.1	0.03	X/X	X/X	X																		
ILCO LUBE 4876 2-Ethylhexyl Dimerate	-	80-105	<-30	~0.91	<0.2	<80	X/-					X				X											
ILCO LUBE 4877 2-Propylheptyl Dimerate	-	90-110	<-30	~0.90	<0.5	-	X/-					X				X											
ILCO LUBE 4879 Di-Isotridecyl Azelate	-	<25	<-62	~0.91	<0.2	-		X/X	X																		
ILCO LUBE 4899 Di-Isotridecyl dodecanoate	-	39-40	<-30	~0.90	<0.1	-		X/X	X																		

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
Tri Ester																	
ILCO LUBE 2301 TMP- Ester	-	~46	-48	~0.92	<0.2	82-92	X/-		X	X					X		
ILCO LUBE 2334 TMP- Ester	-	125-165	<-20	~0.93	<1.0	80-93		-/X	X	X					X		
ILCO LUBE 2335 TMP- Ester	-	63-78	<-20	-	<2.0	82-90		-/X	X	X					X	X	
ILCO LUBE 2336 TMP-Trioleate	-	41-51	<-30	~0.92	<1.0	80-92			X	X				X	X	X	X
ILCO LUBE 2342 Glycerol C8/C10-Triester	-	13-16	<-10	~0.94	<0.1	<0.5			X								X
ILCO LUBE 2344 Glycerol Trioleate	FM	~38	-	~0.92	<0.1	85-96			X					X	X		
ILCO LUBE 2381 Sorbitan Trioleate	Emu	~130	-14	~0.95	10-15	~80								X			
ILCO LUBE 2399 TMP-Tricocoate	-	33-38	<5	-	<2.0	<12					X		X				
ILCO LUBE 3100 TMP- Ester	-	~1000	-54	~0.94	<1.0	85-95		-/X	X	X					X		
ILCO LUBE 3974 TMP-Trioleate	-	42-50	<-40	~0.92	<1.0	82-90	X/-		X	X				X	X		
ILCO LUBE 4146 TMP- Ester	-	41-51	<-40	-	<0.5	<1.0			X	X							
ILCO LUBE 4608 Tri-2-Ethylhexyl Trimellitate	-	79-95	-	~0.99	<0.5	-								X			
ILCO LUBE 4610 Triisodecyl Trimellitate	-	115-148	-	~0.97	<0.5	-								X			

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
ILCO LUBE 4613 Triisodecyl Trimellitate	-	280-315	-	~0.96	<0.5	-							X				
ILCO LUBE 4870 TMP-Ester	-	85-115	<-40	~0.99	<1.0	<2.0		X/-	X	X			X				
ILCO LUBE 4889 TMP-C8/C10 Ester	-	18-22	<-40	~0.94	<0.2	<1.5	-/X	X/-	X	X			X				
ILCO LUBE 4897 TMP-Triisostearate	-	87-97	<-23	~0.91	<0.1	-			X				X				
Tetra Ester																	
ILCO LUBE 2354 PE-Tetraoleate	-	60-72	<-19	~0.91	<2.0	80-95				X				X			
ILCO LUBE 4880 PE-C8/10 Tetraester	-	27-33	<-4	~0.96	<0.3	<1.0			X				X		X		
ILCO LUBE 4896 PE-Tetraisostearate	-	125-150	<-19	~0.92	<5.0	-					X		X				
Complex Ester																	
LCO LUBE 3955 Polyol-Complex Ester	-	285-355	<-20	~0.93	<1.0	84-96		-/X	X	X							
ILCO LUBE 4348 Polyol-Complex Ester	-	419-470	-	~0.97	<0.6	<13		-/X	X				X		X		
ILCO LUBE 4800 Complex Ester	-	6-8 (100 °C)	<-50	-	<1.0	<2.0	x/-		X	X			X				
ILCO LUBE 4801 Complex Ester	-	8-10 (100 °C)	<-50	-	<1.0	<2.0	x/-		X	X			X				
ILCO LUBE 4802 Complex Ester	-	~60	-40	-	<0.1	<2.0	X/-		X	X			X				

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
ILCO LUBE 4803 Complex Ester	-	~45000	-	-	<1.0	-								X	X		
ILCO LUBE 4870 Polyol-Complex Ester	-	85-120	<-40	~0.99	<1.0	<2.0	X/-	-/X	X	X				X			
Polymer Ester																	
ILCO LUBE 5000 Polymer Ester	Dis	~2500	-	~1.1	60-70	-									X		
ILCO LUBE 5945 Polymer Ester	-	400-500	< -21	1.05	4-6	-									X		
ILCO LUBE 7015 Polymer Ester	-	13-18 (100 °C)	<-20	-	<2.0	-	X/-	X/-	X							X	
ILCO LUBE 7025 Polymer Ester	-	~280	-33	~0.94	~0.3	-	X/-	X/-	X							X	
ILCO LUBE 7028 Polymer Ester	-	350-450	<-9	~0.93	<0.6	-	X/-		X		X			X	X	X	X
ILCO LUBE 7030 Polymer Ester	-	~345	<4	~0.95	<2.0	-	X/-		X		X			X	X	X	X
ILCO LUBE 7050 Polymer Ester	-	~275	<4	~0.94	<2.0	-	X/-		X		X			X	X	X	X
ILCO LUBE 7065 Polymer Ester	-	~700	<4	~0.98	<2.0	-	X/-		X		X			X	X	X	X
ILCO LUBE 7280 Polymer Ester	-	~4000	<-10	~1.00	<1.0	-								X	X	X	
ILCO LUBE 7300 Polymer Ester	-	~4000	<4	~1.00	<0.5	-								X		X	X
ILCO LUBE 7500 Polymer Ester	-	~7000	-9	~0.96	~0.1	-								X		X	X

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
ILCO LUBE 7700 Polymer Ester	-	~11000	<4	~0.96	<1.0	-							X		X		X
ILCO LUBE 7800 Polymer Ester	-	200-400 (80 °C)	-	-	~8.0	-					X						
Alcohols																	
ILCO LUBE AL C8/C10 Fatty Alcohol C8/C10	INT	-	-	-	<0.1	<0.3								X			
ILCO LUBE 6150 Fatty Alcohol C12	INT	~12	~21	-	<0.1	<0.2								X			
ILCO LUBE AL C12/C14 Fatty Alcohol C12/C14	INT	-	-	-	<0.1	<0.3											X
ILCO LUBE 6250 Fatty Alcohol C12/C18	INT	-	-	~0.83	<0.1	<0.5											X
ILCO LUBE AL C16 Fatty Alcohol C16	INT	-	-	-	<0.1	<0.5											
ILCO LUBE AL C16/C18 Fatty Alcohol C16/C18	INT	-	-	-	<0.1	<0.5											
ILCO LUBE 6000 2-Hexyldecyl Alcohol	MQL	15-25	<-50	~0.84	<0.5	<6			X						X		X
ILCO LUBE 6020 2-Octyldodecyl Alcohol	MQL	~26	<-25	~0.84	<0.1	<8.0			X						X		X
ILCO LUBE 6050 Oleyl/Cetyl Fatty Alcohol	INT	-	-	~0.83	<0.2	50-55			X						X		
ILCO LUBE 6070 Oleyl/Cetyl Fatty Alcohol	INT	-	-	~0.83	<0.2	70-75								X	X		
ILCO LUBE 6080 Oleyl/Cetyl Fatty Alcohol	INT	-	6-16	-	<0.2	85-90			X					X	X		

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ILCO LUBE 6090 Oleyl/Cetyl Fatty Alcohol	INT	19	-	~0.84	<0.2	90-98			X				X	X		
Further Products																
ILCO LUBE 4410 Isostearic Acid	INT	-	-	-	190-200	<2.0					X					
ILCO LUBE 4444 Oleic Acid	INT	-	-	-	<205	>88					X					

* = typical values

AO = Antioxidant * AW = Anti-Wear * CI = Corrosion Inhibitor * Def = Defoamer * Dis = Dispersant * Emu = Emulsifier * EP = Extreme Pressure Additive * FM = Friction Modifier

* INT = Intermediate * PPD = Pour Point Depressants * VM = Viscosity Modifier

ILCO – Additives

Functional additives for lubricants

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
Defoamer																	
ILCO LUBE AF 2	Def	7-8	-	~0.83	<5.0	-		X/X		X	X						
ILCO LUBE AF 2 K	Def	28-32	-	~0.84	-	-		X/X		X	X						
ILCO LUBE AF 3	Def	-	-	-	-	-								X			
ILCO LUBE AF 4	Def	-	-	0.88-0.97	-	<20					X			X			
ILCO LUBE AF 11	Def	~623 mPas (20 °C)	-	~1.01	-	<3.0								X			
ILCO LUBE AF 12	Def	~485 mPas (20 °C)	-	~1.00	-	-								X			
ILCO LUBE AF 13	Def	~370 mPas (20 °C)	-	~1.03	-	-									X		
Emulsifier																	
ILCO LUBE EM 01 Mixture of Ethoxylates	W/D	150-250 (20 °C)	-	-	-	-					X						
ILCO LUBE EM 03 Fatty Alcohol, ethoxylated	Emu	~31 mPas (20°C)	<15	~0.89	-	-					X						
ILCO LUBE EM 05 Fatty Alcohol, ethoxylated	Emu	25-27	-	~0.94	-	-					X						
ILCO LUBE EM 09 Fatty Alcohol, ethoxylated	Emu	-	<16	~0.89	-	-					X						

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
ILCO LUBE EM 33 V	Emu	-	-	~1.0	<0.5	<5.0					X						
ILCO LUBE EM 55 Oleic acid poly(oxyethylene) ester	Emu	<200mPas (65°C)	-	~1.0 (70°C)	-	-					X						
ILCO LUBE EM 450 PIBSA	Emu	70-75 (100 °C)	-	-	80 - 85	-					X	X		X			
ILCO LUBE EM 750 PIBSA	Emu	400 (100 °C)	-	-	65 - 75	-					X	X		X			
ILCO LUBE EM 1000 PIBSA	Emu	540 (100 °C)	-	-	55 - 60	-					X	X		X			
Phosphites																	
ILCO PHOS 404 Di-n-butyl Phosphite	AO	-	-	~0.99	<4.0	-					X						
ILCO PHOS 408 Di-n-octyl Phosphite	EP, AW	~5	-	~0.92	<10	-		X/-		X							
ILCO PHOS 412 S Tri-thiolauryl Phosphite	AO, EP	25 mPas	-	~0.92	<1.0	-					X						
ILCO PHOS 418 Di-oleyl Phosphite	AO	18-23 mPas	-	~0.90	<5.0	-					X						
ILCO PHOS 468 Tris(alkylphenol) Phosphite	AO	-	-	1.03	-	-		X/-	X								
Corrosion Inhibitor																	
ILCO LUBE CI SO Oleylsarcosinate	CI	~340	<-5	~0.96	157	-			X	X	X						
ILCO LUBE CI 1550 Dicarboxylic Acid Blend	CI	-	-	~1.0	515-535	-						X					

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							2 / 4 Stroke Engine	Gear & Transmission / Industrial Gear	Grease	Hydraulic Fluids	Lubricant Additive	Rust & Oxidation	Chain Lubricants	Cutting Fluids	Neat Oils	Rolling Oils	Aluminium Processing
Pour Point Depressants																	
ILCO PPD BA1 Methacrylate Polymers/Mineral Oil	PPD	~90	-	~0.89	-	-		X/-		X	X	X					
ILCO PPD BA2 Methacrylate Polymers/Mineral Oil	PPD	~65	-	~0.89	-	-		X/-	X	X		X					
ILCO PPD GII/III Methacrylate Polymers/Mineral Oil	PPD	~65	-	~0.89	-	-			X			X					
ILCO PPD HBO Methacrylate Polymers/Mineral Oil	PPD	~70	-	~0.88	-	-			X			X					
HFG Series																	
ILCO LUBE HFG 22	-	23,87	-51	0.866	<0.2	-				X							
ILCO LUBE HFG 38	-	33,19	-48	0.878	<0.2	-				X							
ILCO LUBE HFG 46	-	44,32	-45	0.886	<0.2	-				X							
ILCO LUBE HFG 68	-	72,62	-45	0.887	<0.2	-				X							
MQL																	
ILCO LUBE 9025 Mixture	-	18-24	-	~0.89	<0.2	-								X			
Oil Drilling																	
ILCO LUBE 8024 Polyol-Complex Ester	-	<75	<-15	~0.93	<16	84-93											

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