



**LUBRICANT
SPECIALTY**



PRODUCT CATALOG

**Made By Expert
Works Like Magic**

www.whizol.com

WHIZOL


liqtro



PT UTAMA KARYA NIAGA is a national lubricant company that provides the perfect solution to all kinds of industrial scale lubricating matters and difficulties. We produce and market specialty lubricants to the industrial world with our local brand as **WHIZOL** and **LIQTRO**.



We are determined and in complete commitment to escalate the efficiency of our clients by supplying top quality products that will save budget allocations, providing experienced technical guide and lubricant management. We will cooperate with our clients by presenting solutions to solve their lubricant-related problems. As the result, our contribution will bring the benefit of cost-effectiveness by giving the ability to cut down production expenses and improve industrial productivity.

Some of our clients are:

- PT Toyota Motor Manufacturing Indonesia
- PT Astra Honda Motor
- PT Suzuki Indomobil Motor
- PT Grakindo Maju Sukses
- PT Enkei Indonesia
- PT Chemco Harapan Nusantara
- PT Saitama Stamping Indonesia
- PT Dharma Precision Part
- PT Kohwa Indonesia
- PT Indonesia Nippon Steel Pipe
- PT Garuda Metalindo
- PT Indoseiki Metal Utama
- PT MTAT
- PT Federal Izumi Manufacturing
- PT Kyowa Indonesia





PRODUCTION

Standing proud on 10.000 square meters of land in Tambun, Bekasi.

We are a corporation that specializes on industrial lubricants as the main commodity.

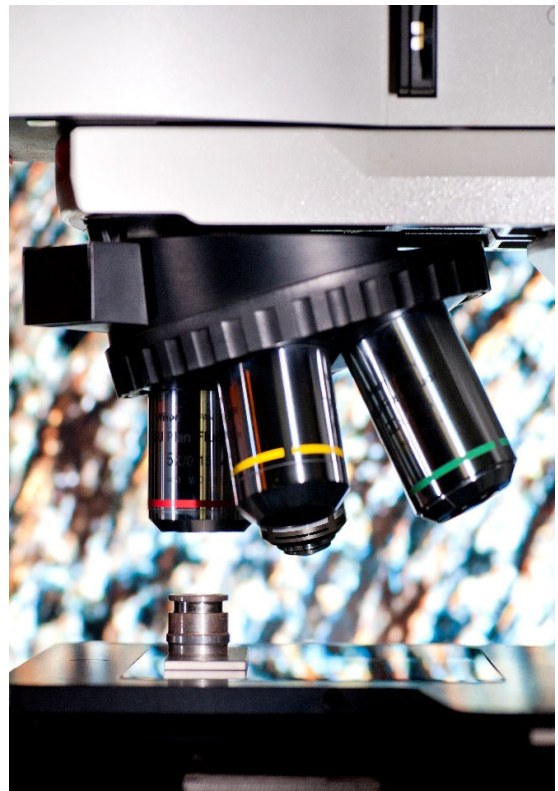
We have been entirely independent in formulating our produced lubricants by collaborating with additive manufactures and suppliers from all over the world.

All of the lubricants have passed international requirements and OEM (Original Equipment Manufacturer) standards, the aforementioned lubricants are: petrol engine lubricants, diesel engine lubricants, gear wheel lubricants, metal working fluid and a wide range of other industrial lubricants.

LABORATORY

In manufacturing WHIZOL and LIQTRO Lubricants, we supported by our extensive range of advance and precise laboratory facility and proficient laboratory personnel. Our service is also consists of skilled Product Development Team and responsive Technical Service Team to support clients by performing maintenance work and lubricant application, as well as providing solutions and backing in the occurrence of problem with the production equipment.

The laboratory has been accredited with ISO 17025 by KAN-BSN (National Accreditation Committee National Board of Standardization), therefore our laboratory has also processed the capacity to perform as a service laboratory to the public.





AUTOMOTIVE LUBRICANT

Quality Lubricants for Optimal Performance

An automotive lubricant is responsible for the lubrication of automotive parts to reduce any friction caused in your vehicle. It also serves number of secondary functions. It helps clean and cool down the engine parts and prevents rust and corrosion build up.

BRAKE FLUID

Heavy duty brake and clutch fluid with a minimum boiling point of 238°C (460°F). The brake fluid forms an essential component in the braking system of car.

- **LIQTRO BRAKE FLUID DOT 3**
- **LIQTRO BRAKE FLUID DOT 4**

LIQTRO BRAKE FLUID				
Test	Method	Specification	Result	
			DOT 3	DOT 4
Density at 20°C	ASTM D 4052-22	1.000 – 1.065 g/cm	1.0651	1.0353
Water Content	ASTM D 7546-24	Max 2000 ppm	700	777
Kinematics Viscosity @100° C	ASTM D 445-23	Min 1.5 cSt	2.456	2.088
pH	ASTM E 70-24	7.00 - 11.5	7.57	8.64

AUTOMATIC TRANSMISSION FLUID

High quality performance automatic transmission fluid which possessed oxidation resistance, low temperature fluidity, appropriate friction performance, and high shear stability.

- LIQTRO ATF DEXRON II

LIQTRO ATF DEXRON II			
Test	Unit	Method	Results
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8336
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	28.62
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	6.513
Viscosity Index	-	ASTM D 2270-10	193
Flash Point (COC)	°C	ASTM D 92-18	194

TRANSMISSION GEAR OIL

Heavy duty automotive gear oils, formulated from high quality base oil and strong extreme pressure additive of sulphur and phosphorus type.

- LIQTRO TGO SAE 90, API GL 5
- LIQTRO TGO SAE 140, API GL 5

LIQTRO TGO				
Test	Units	Method	Results	
			SAE 90	SAE 140
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8980	0.9037
Color	-	ASTM D 1500-12	L 3.5	L 3.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	175.8	425.4
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	16.28	28.67
Viscosity Index	-	ASTM D 2270-10	96	94
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{e2}	1.78	3.96
Flash Point (COC)	°C	ASTM D 92-18	222	236

DIESEL ENGINE OIL

Diesel engine oil with High Performance level and is formulated to give better engine protection and longer drain intervals.

- LIQTRO EXTREMO CI-4 SAE 15W-40 API CI-4/SL
- LIQTRO EXTREMO CH-4 SAE 15W-40 API CH-4/SJ
- LIQTRO EXTREMO CF-4 SAE 15W-40 API CF-4/SG

LIQTRO EXTREMO CI-4 SAE 15W-40 API					
Test	Unit	Method	Results		
			CI-4/SL	CH-4/SJ	CF-4/SG
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8841	0.8787	0.8831
Color	-	ASTM D 1500-12	L 2.5	L 2.5	L 2.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	101.1	114.1	104.0
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	13.97	16.21	14.20
Viscosity Index	-	ASTM D 2270-10	140	153	139
Flash Point (COC)	°C	ASTM D 92-16	234	234	226
Total Base Number (TBN)	mg KOH/g	ASTM D 2896-21	12.98	8.12	9.25
CCS Viscosity at -20 °C	cP	ASTM D 5293-20	4975	4180	4625

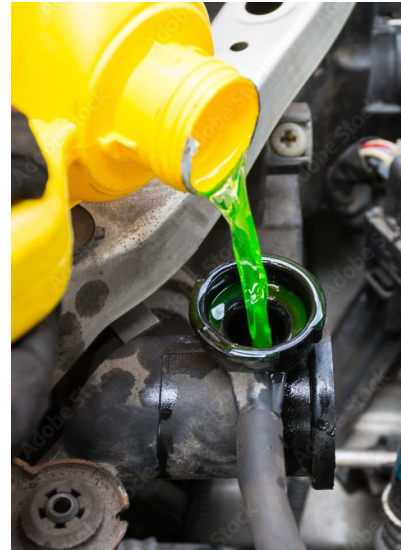
- LIQTRO EXTREMO CF SAE 40 API CF
- LIQTRO EXTREMO 10W, SAE 10W API CF

LIQTRO EXTREMO API CF				
Test	Unit	Method	Results	
			SAE 40	SAE 10W
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8933	0.8760
Color	-	ASTM D 1500-12	L 3.0	L 2.0
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	141.0	44.94
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	14.30	7.890
Viscosity Index	-	ASTM D 2270-10	99	147
Total Base Number (TBN)	mg KOH/g	ASTM D 2896-21	11.03	12.10
Flash Point (COC)	°C	ASTM D 92-18	236	226
CCS Viscosity at -25 °C	°C	ASTM D 5293-20	-	2824

RADIATOR COOLANT

An engine coolant based on ethylene glycol. It contains a corrosion inhibitor package, which does not contain nitrites, amines, and phosphates.

This product was developed to protect car, bus, and truck engine both ferrous and aluminium construction against corrosion and frost damage. It contains a blend of inhibitors designed to give a high degree of corrosion protection to engine component such as radiators, cylinder blocks / heads and water pumps.



- **LIQTRO RADIATOR COOLANT 30**
- **LIQTRO RADIATOR COOLANT 50**

LIQTRO RADIATOR COOLANT				
Test	Unit	Method	Results	
			30	50
Density at 15°C	Kg/liter	ASTM D 4052-18a	1.0453	1.0473
Color	-	ASTM D 1500-12	Light Green	Green
pH at (25°C)	-	ASTM E 70-19	9.26	8.12
Kinematik Viscosity 40°C	cSt	ASTM D 445-19a	1.291	1.180

- **WHIZOL EXTENDED LIFE COOLANT (ELC)**

WHIZOL RADIATOR COOLANT ELC			
Test	Unit	Method	Result
Density at 15 °C	Kg/liter	ASTM D 4052-18a	1.0755
Color	-	ASTM D 1500-12	Light Green
pH	-	ASTM E 70-19	7.93
Refractive Index	% Brix	Refractometer	33.0

INDUSTRIAL LUBRICANT

Leading the way in lubrication technology

MINERAL HYDRAULIC OIL

Fully formulated zinc-based hydraulic lubricant with has been developed specifically to deliver high-performance lubrication in industrial power transmission systems.

Protection against wears, multi-metal corrosion, and oxidation while operating under the conditions of high severity.

- LIQTRO HYDRAULIC ZD 22 ISO VG 22
- LIQTRO HYDRAULIC ZD 32 ISO VG 32
- LIQTRO HYDRAULIC ZD 46 ISO VG 46
- LIQTRO HYDRAULIC ZD 68 ISO VG 68
- LIQTRO HYDRAULIC ZD 100 ISO VG 100
- LIQTRO HYDRAULIC ZD 150 ISO VG 150

LIQTRO HYDRAULIC ZD								
Test	Unit	Method	Results					
			ZD 22	ZD 32	ZD 46	ZD 68	ZD 100	ZD 150
Density at 15 °C	Kg/liter	ASTM D 4052-18a	0.8693	0.8560	0.8646	0.8699	0.8751	0.8906
Color	-	ASTM D 1500-12	L 0.5	L 0.5	L 0.5	L 0.5	L 1.0	L 2.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-21	22.95	32.58	49.14	64.65	97.81	155.6
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-21	4.381	5.862	7.326	8.517	11.46	15.32
Viscosity Index	-	ASTM D 2270-10	97	124	110	102	104	99
Flash Point (COC)	°C	ASTM D 92-18	216	232	244	248	222	254
Water Content	ppm	ASTM D 7546-15	204	122	138	107	108	98
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{e2}	0.49	0.46	0.47	0.48	0.55	1.18
Infra Red Spectra Matching	%	FTIR	99.11	98.74	98.85	98.91	98.88	98.90
Foaming Tendency/stability	mL	ASTM D 892-18						
Seq. I			10/0	0/0	0/0	0/0	0/0	0/0
Seq. II			10/0	0/0	0/0	10/0	10/0	0/0
Seq. III			10/0	0/0	0/0	0/0	0/0	0/0
Pour Point	°C	ASTM D 97 - 17b	-	-	-	-	-	-6
Copper Strip Corrosion	-	ASTM D 130-19	-	-	-	-	-	1a

FIRE RESISTANT HYDRAULIC FLUID

Water glycol fire resistant hydraulic fluid, which formulated with a high quality polyalkylene glycol thickener, diethylene glycol and selected additives.

- LIQTRO HYDROSAFE 46
- LIQTRO HYDROSAFE 68

LIQTRO HYDROSAFE				
Test	Unit	Method	Results	
			46	68
Density at 15 °C	Kg/liter	ASTM D 4052	1.0745	1.0810
Color		ASTM D 1500	Red	Red
Odor			Mild Pleasant	Mild Pleasant
Viscosity at 40 °C	CSt	ASTM D 445	41.51	63.41
pH Concentrate 25°C		pH meter	9.70	9.78
Refractive Index	% wt	Refractometer	39.0	35
Pour point	°C	ASTM D 97		-38

HFDU

A high flash point, bio-degradable hydraulic fluid which is based on synthetic polyol ester, antioxidants, anti-wear and anti corrosion additives. Due to the nature of the ester, this product has extremely good viscosity/temperature properties and has relationship with high viscosity index, high thermal stability and excellent lubricity.

- WHIZOL FYRES SE 68

WHIZOL FYRES SE 68			
Test	Unit	Method	Results
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.9183
Color	-	ASTM D 1500-12	L 0.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-21	65.20
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-21	12.02
Viscosity Index	-	ASTM D 2270-10	183
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	0.62
Flash Point (COC)	°C	ASTM D 92-18	315
Pour Point	°C	ASTM D 97-17b	-42
Copper Strip Corrosion	-	ASTM D 130-19	1b

INDUSTRIAL GEAR OIL

Formulated sulphur-phosphorous based industrial gear lubricant which has been developed specifically to deliver high-performance lubrication in enclosed gear sets operating under heavy or shock loads.

It is blended from selective base oil and a comprehensive additive package to provide the necessary levels of protection against wears, multi-metal corrosion, foaming and oxidation while operating under the conditions of high severity.

- LIQTRO IGO 68 ISO VG 68
- LIQTRO IGO 100 ISO VG 100
- LIQTRO IGO 150 ISO VG 150
- LIQTRO IGO 220 ISO VG 220
- LIQTRO IGO 320 ISO VG 320
- LIQTRO IGO 460 ISO VG 460



LIQTRO IGO								
Test	Unit	Method	Results					
			68	100	150	220	320	460
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8814	0.8862	0.8876	0.8924	0.8948	0.8995
Color	-	ASTM D 1500-12	L 2.5	L 2.5	L 2.5	L 2.5	L 3.5	L 3.0
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-21	67.90	100.8	144.5	211.8	316.8	468.0
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-21	8.832	11.65	14.70	19.00	23.83	29.43
Viscosity Index	-	ASTM D 2270-10	103	103	100	100	95	90
Flash Point (COC)	°C	ASTM D 92-18	236	230	246	248	242	316
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{e2}	0.73	0.60	0.52	0.42	0.61	0.47

COMPRESSOR OIL

Tornado M Series is an ash free compressor lubricant, which provides the necessary levels of protection against wear, multi-metal corrosion, and excellent oxidation stability for lubricants operating under conditions of high severity.

Tornado X Series is our top tier synthetic compressor lubricant to provide long oil life and effective lubrication under prolonged high temperature and heavy load condition.

Mineral Base Products

- LIQTRO TORNADO M 32 ISO VG 32
- LIQTRO TORNADO M 46 ISO VG 46
- LIQTRO TORNADO M 68 ISO VG 68
- LIQTRO TORNADO M 100 ISO VG 100

Fully Synthetics

- LIQTRO TORNADO X 32 ISO VG 32
- LIQTRO TORNADO X 46 ISO VG 46
- LIQTRO TORNADO X 68 ISO VG 68

MINERAL BASE (TORNADO M)						
Test	Unit	Method	LIQTRO TORNADO M			
			32	46	68	100
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8677	0.8631	0.8698	0.8835
Color	-	ASTM D 1500-12	L 0.5	L 0.5	L 0.5	L 0.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-21	30.72	48.52	70.60	100.9
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-21	5.417	7.268	9.020	11.45
Viscosity Index	-	ASTM D 2270-10	111	110	102	100
Water Content	ppm	ASTM D 7546-15	-	-	-	145
Flash Point (COC)	°C	ASTM D 92-18	230	244	241	230
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	1.11	1.00	0.78	1.10

FULLY SHYNTETICS (TORNADO X)					
Test	Unit	Method	LIQTRO TORNADO X		
			32	46	68
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8309	0.8350	0.8448
Color	-	ASTM D 1500-12	L 0.5	L 0.5	L 0.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-21	35.05	48.30	64.19
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-21	6.446	8.285	10.36
Viscosity Index	-	ASTM D 2270-10	138	147	149
Flash Point (COC)	°C	ASTM D 92-18	260	262	250
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	1.08	1.06	0.16

CIRCULATING, BEARING, SPINDLE OIL

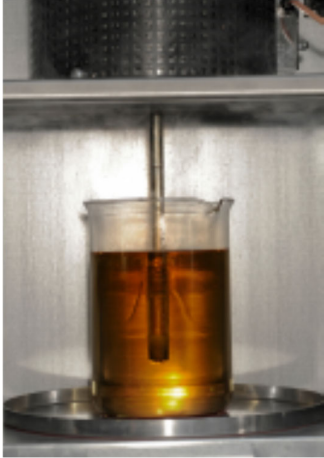
Ash free circulation and bearing lubricants, which formulated from highly refined base stocks and an additive system, which provide oxidation stability, excellent protection against rust and corrosion, and good anti-wear properties for lubricants operating under conditions of high severity.

LIQTRO CIRCULATING is also recommended for continuous service in the lubrication of plain and rolling bearings and parallel shaft gearing. They have also been used successfully in turbine and rotary air compressor applications, as well as vacuum pumps.



- **LIQTRO CIRCULATING 2 ISO VG 2**
- **LIQTRO CIRCULATING 10 ISO VG 10**
- **LIQTRO CIRCULATING 22 ISO VG 22**

LIQTRO CIRCULATING					
Test	Unit	Method	Results		
			ISO VG 2	ISO VG 10	ISO VG 22
Color	-	ASTM D 1500-12	L 0.5	L 0.5	L 0.5
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8050	0.8246	0.8495
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	1.911	10.18	23.33
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	-	2.864	4.649
Viscosity Index	-	ASTM D 2270-10	-	135	117
Flash Point,PMCC	°C	ASTM D 93-20	2	-	-
Flash Point,COC	°C	ASTM D 92-18	-	124	198
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	-	0.58	0.22



HEAT TRANSFER OIL

High quality heat transfer oil with high viscosity index and high oxidation stability.

These lubricating oil provides superior performance for non pressurized, closed fluid heat transfer system operating at bulk temperature up to 320°C.

- **LIQTRO CALOR**
- **LIQTRO CALOR SYN**

Special Features:

- Thermal stability, give excellent resistance to thermal cracking and chemical oxidation.
- High flash point, make them safe to be used at high temperature.
- High specific heat and thermal conductivity at all temperatures in normal systems, therefore will give rapid heating and flexibility in systems.

LIQTRO CALOR				
Test	Unit	Method	Results	
			CALOR	CALOR SYN
Color	-	ASTM D 1500-12	L 0.5	L 0.5
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8677	0.8447
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	26.43	25.27
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	4.844	5.101
Viscosity Index	-	ASTM D 2270-10	104	134
Flash Point (COC)	°C	ASTM D 92-18	224	234
Total Acid Number	mg KOH/g	ASTM D 664-18 ^{e2}	0.10	0.37



SLIDEWAY

Designed to prevent the “stick-slip”. Uses EP additives that form a hard boundary layer of protection and tackiness additive that improve the adhesion properties of the oil, even under the most difficult working condition.

- **LIQTRO SLIDEWAY 32 ISO VG 32**
- **LIQTRO SLIDEWAY 68 ISO VG 68**
- **LIQTRO SLIDEWAY 220 ISO VG 220**

LIQTRO SLIDEWAY					
Test	Unit	Method	Results		
			32	68	220
Density at 15 °C	Kg/liter	ASTM D 4052-18a	0.8761	0.8796	0.8895
Color	-	ASTM D 1500-12	L 1.0	L 2.0	L 4.0
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-19a	32.71	66.86	229.9
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-19a	5.711	9.163	20.36
Viscosity Index	-	ASTM D 2270-10	115	113	103
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	0.53	0.06	0.50
Flash Point (COC)	°C	ASTM D 92-18	215	239	272

METAL WORKING FLUID & SPECIALTY PRODUCTS

Experience The Power of High-Quality Lubricants

NEAT CUTTING OIL

Mineral neat cutting oil, which formulated using sulphured extreme pressure additive and fatty ester additive.

In application, will not mets, provides a lubricating film of high sear strength.

Can be used in much range application, sawing, turning, milling, drilling, tapping, etc, for ferrous and non-ferrous metal, primarily to provide cooling and lubrication which lead to good tool life and appropriate surface finish of the components being machined.

Features

- Excellent to separate the parts form the tooling
- Excellent cooling
- High temperature stabilized
- High flash point

Benefits

- Preventing metal to metal contact
- Reduce tool wear, and give excellent part finished
- Environmentally friendly

Neat Cutting Oil for heavy duty process:

- LIQTRO VEGA 22
- LIQTRO VEGA 0828S

HEAVY DUTY				
Test	Unit	Method	LIQTRO VEGA	
			22	0828S
Color	-	ASTM D 1500-12	L 2.0	L 1.5
Density at 15 ^o C	Kg/liter	ASTM D 4052-22	0.8708	0.8749
Kinematic Viscosity at 40 ^o C	cSt	ASTM D 445-23	22.92	25.65
Kinematic Viscosity at 100 ^o C	cSt	ASTM D 445-23	4.580	4.884
Viscosity Index	-	ASTM D 2270-10	115	114
Flash Point, COC	^o C	ASTM D 92-18	122	204
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	0.31	1.06

Neat Cutting Oil for medium duty process:

- **WHIZOL PURE CUT FX 11**
- **WHIZOL PURE CUT FX 07**
- **WHIZOL PURE CUT YLC 35**

MEDIUM DUTY						
Test	Unit	Method	WHIZOL PURE CUT			
			LDC	FX 11	FX 07	YLC 35
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8706	0.8598	0.8477	0.8699
Color	-	ASTM D 1500-12	L 1.5	L 1.5	L 2.0	L 1.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	25.60	11.96	7.092	25.42
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	4.810	3.052	2.191	4.802
Viscosity Index	-	ASTM D 2270-10	109	113	-	109
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	0.42	0.12	0.27	0.27
Flash Point (COC)	°C	ASTM D 92-18	222	124	116	222
Water Content	ppm	ASTM D 7546-24	127	-	-	
Foaming Tendency/stability	mL	ASTM D 892-23				
Seq. I			10/0	-	-	
Seq. II			0/0	-	-	
Seq. III			10/0	-	-	



STAMPING, FORGING & FORMING OIL

Metal forming lubricants, which formulated with EP additive, lubricity improver additive, and anti-wear additive. The lubricant provides tools and mould protection from micro-weld result in longer life and guarantee work-piece smooth surface finish.

Features

- Excellent to separate the part from the tooling
- Excellent cooling
- Low odour
- High flash point

Benefits

- Preventing metal to metal contact
- Reduce tool wear and give excellent part finish
- Worker friendly
- Reduction of fire risk

Products:

- **WHIZOL STAMPING NDR 245**
- **WHIZOL STAMPING 70-2**
- **LIQTRO FORMING GR 120**
- **LIQTRO FORMING 150S**

WHIZOL STAMPING				
Test	Unit	Method	Results	
			NDR 245	70-2
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.9119	0.9221
Color	-	ASTM D 1500-12	L 3.5	L 2.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	413.8	76.53
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	33.18	9.971
Viscosity Index	-	ASTM D 2270-10	117	115
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	1.12	0.26
Flash Point (COC)	°C	ASTM D 92-18	242	185

LIQTRO FORMING				
Test	Unit	Method	Results	
			GR 120	150S
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8858	0.9008
Color	-	ASTM D 1500-12	L 2.0	L 3.5
Kinematic Viscosity at 40 °C	CSt	ASTM D 445-23	69.54	145.4
Kinematic Viscosity at 100 °C	CSt	ASTM D 445-23	9.316	14.97
Viscosity Index	-	ASTM D 2270-10	111	103
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	0.21	0.60
Flash Point (COC)	°C	ASTM D 92-18	234	215

EDM OIL

High performance lubricant, highly refined mineral oil, specially develop for Electrical Discharge Machine (EDM). It's low viscosity, low volatility, and high oxidation resistant.

- **WHIZOL EDM 80**
- **WHIZOL EDM FLUID 232**

WHIZOL EDM				
Test	Unit	Method	Result	
			80	232
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8014	0.8170
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	1.629	2.498
Flash Point (PMCC)	°C	ASTM D 93-20	82	110

WATER BASED CUTTING FLUID - SOLUBLE

Water - miscible metal working fluid, which produces a superior quality milky, opaque, emulsion when mixed with water.

The products don't contain nitrite and phenol which ensure safe working environment.

The boundary properties afforded by high oil content provides good machining performance and high degree of residual corrosion protection. This product contains biocide package used to prolongs service life.

- **WHIZOL EMULCUT TC 03R**
- **LIQTRO ASCELLA**

WATER BASED CUTTING FLUID - SOLUBLE				
Test	Unit	Method	Results	
			WHIZOL EMULCUT TC 03R	LIQTRO ASCELLA
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8923	0.8889
pH (5% V lubricant in distilled)	-	ASTM E 70-24	9.17	9.97
Refractive Index (5% V lubricant in distilled)	% Brix	Refractometer	5.0	4.0
Determination of rust prevention characteristics of water mix metal working fluids ((10% V lubricant in distilled)	% Area stained	IP 287	Clear	Clear

WATER BASED CUTTING FLUID - SEMI SYNTHETICS

Semi synthetic water - mix metal working, correct choice for cutting oil fluid, allows longer service life, excellent heat transfer, and provides excellent hydrodynamic lubricity characteristics, leading to reductions in tool wear.



Formulated from high quality emulsifier, corrosion inhibitor, lubricity improver, which have the capability in providing good machining performance a high degree of residual corrosion protection, and protects against bacterial degradation and emulsion breakdown.

- **WHIZOL EMULCUT SS 32 J**
- **WHIZOL EMULCUT SS 62 J**
- **LIQTRO ASCELLA MX**

WATER BASED CUTTING FLUID – SEMI SYNTHETICS					
Test	Unit	Method	WHIZOL		LIQTRO
			32J SS	62J SS	ASCELLA MX
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.9840	0.9914	0.9938
Emulsion Stability	-	-	Light Brown	Light Brown	Light Brown
pH (5% V lubricant in distilled)	-	ASTM E 70-24	9.90	9.18	9.31
Refractive Index (5% V lubricant in distilled)	% Brix	IK/SNR-LAB/7.2/1/1/ Refractometer	2.5	2.0	2.0
Determination of rust prevention characteristics of water mix metal working fluids (5% V lubricant in distilled)	% Area stained	IP 287	Clear	Clear	< 20%



WATER BASED CUTTING FLUID - SYNTHETICS

A new long life coolant, multi purpose and correct choice for cutting and grinding fluid. It provides excellent cooling and lubricity for light-duty cutting and grinding of ferrous metals, resulting in extended tool life and good surface finishes on the machine parts.

- **WHIZOL EMULCUT FS 06**
- **WHIZOL EMULCUT FS 00**
- **WHIZOL EMULCUT FS G100**

WHIZOL EMULCUT					
Test	Unit	Method	Results		
			FS 00	FS 06	FS G100
Density at 15 °C	Kg/liter	ASTM D 4052-22	1.0847	1.0419	1.0480
Color	-	ASTM D 1500-12 (2017)	Yellow	Fluorescent Green	Fluorescent Green
pH (5% V lubricant in distillated)	-	ASTM E 70-24	9.35	9.68	9.33
Refractive Index (5% V lubricant in distillated)	% Brix	IK/SNR-LAB/7.2/1/1/ Refractometer	2.0	1.0	2.0



RUST PREVENTIVE

Excellent rust and corrosion protection lubricant, protect metals and machine parts during and after treatment as well as during in and outdoor storage until they further treated or assembled.

Solvent Base RPO Products

- WHIZOL STOP RUST LX 10
- LIQTRO RUST GARD V15

SOLVENT BASE RPO				
Test	Unit	Method	Results	
			WHIZOL STOP RUST LX10	LIQTRO RUST GARD V15
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.7998	0.7871
Color	-	ASTM D 1500-12	L 4.0	L 4.0
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	1.628	1.337
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	-	1.52
Flash Point (PMCC)	°C	ASTM D 93-20	50	64

Oil Base RPO Product:

- LIQTRO RUST GARD S 1003
- LIQTRO RUST GARD 0503

OIL BASE RPO PRODUCT				
Test	Unit	Method	LIQTRO RUST GARD	
			S 1003	S 0503
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.8333	0.8376
Color	-	ASTM D 1500-12	L 4.5	L 3.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	5.412	4.876
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-23	1.864	1.711
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	0.68	2.01
Flash Point (PMCC)	°C	ASTM D 93-20	92	85

QUENCHING OIL

Poly alkylene glycol based polymer quenchant designed for use in induction hardening applications to minimize residual sticky deposits on equipment and quenched parts, and extend system life.

- LIQTRO QUENCHMAX 30**

LIQTRO QUENCHMAX 30			
Test	Unit	Method	Result
Density at 15°C	kg/m ³	ASTM D 4052	0.8697
Color		ASTM D 1500	L 1.0
Viscosity at 40°C	cSt	ASTM D 445	29.12
Viscosity at 100°C	cSt	ASTM D 445	5.12
Viscosity Index	-	ASTM D 2270	104
Total Acid Number	mg KOH/g	ASTM D 664	0.5
Flash Point, COC	°C	ASTM D 92	212

- WHIZOL AQUA QUENCH 300**

WHIZOL AQUA QUENCH 300			
Test	Unit	Method	Results
Appearance	-	Visual	Pale Liquid
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	291.4
Density at 15 °C	Kg/liter	ASTM D 4052-22	1.0852
pH (5% V lubricant in distilled)	-	ASTM E 70-24	9.67
Refractive Index (5% V lubricant in distilled)	% Brix	Refractometer	3.0

PLUNGER OIL

Lubricant for plunger process related to steel or aluminium part printing which is specially designed with mineral base oil composition, quality additives and contains Extreme Pressure (EP) Additive. Lubrication ability can work well to protect tip and sleeve and compete with conventional graphite lubricants.

- **WHIZOL PL 460**
- **WHIZOL PL 1000**

WHIZOL PL				
Test	Unit	Method	Result	
			460	1000
Density at 15 °C	Kg/liter	ASTM D 4052-18a	0.8965	0.9033
Color	-	ASTM D 1500-12	3.5	L 3.5
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-19a	527.0	907.0
Kinematic Viscosity at 100 °C	cSt	ASTM D 445-19a	37.00	51.70
Viscosity Index	-	ASTM D 2270-10	109	105
Total Acid Number (TAN)	mg KOH/g	ASTM D 664-18 ^{E2}	0.07	2.98
Flash Point (COC)	°C	ASTM D 92-18	280	268

CLEANER AND WASHING FLUID

Washing fluid, formulation is especially suitable for cleaning and removing oils, fats and greases.

Water Base Product:

- **LIQTRO AQUACLEAN**

LIQTRO AQUACLEAN			
Test	Unit	Method	Results
Density at 15 °C	Kg/liter	ASTM D 4052-22	1.1547
pH at 3 % V	-	ASTM E 70-24	13.85
Refractive Index (% Brix)	-	Refractometer	26.0



Solvent Base Product:

- **WHIZOL IP CLEAN LX**
- **LIQTRO SL CLEAN 80**

SOLVENT BASE				
Test	Unit	Method	Results	
			WHIZOL IP CLEAN LX	LIQTRO SL CLEAN 80
Density at 15 °C	Kg/liter	ASTM D 4052-22	0.7500	0.7899
Kinematic Viscosity at 40 °C	cSt	ASTM D 445-23	1.405	1.626
Flash Point,PMCC	°C	ASTM D 93-20	56	81



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