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PANOLIN[®] **+**
Swiss Oil Technology

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Notes and explanations

Specifications

We use the normal commercial terminology, differentiating between approval and performance grade.

Approval Note

Lubricants are specifically approved by the respective manufacturers (e.g. Mercedes-Benz). In some cases product approval is only for certain viscosity classes. For further details, please see our respective product documentation.

Performance grade

The lubricant meets the respective approval requirements, without specific product approval by the manufacturer.

Note

In some cases performance grade is only for certain viscosity classes.

Product and security data sheets

For detailed information on product properties, applications, utilization and warning texts, please refer to the respective product and security data sheets. These data sheets are available on request.

Important

It is essential to comply with the manufacturers instructions for the respective engines/motors, machinery, plant or components!

Drum codes

The **standard** drum delivery sizes are indicated for each product. Other drum sizes are available on request.

Oils, general products	C	= Intermediate bulk container (IBC), 900 kg (770 – 1150 kg)
	F	= Original drum, 180 kg (140 – 230 kg)
	T	= Keg (small drum), 50 kg (45 – 60 kg)
	KA	= Can, 20 kg (20 – 25 kg)
	5L	= Can, 5 litre
	4L	= Can, 4 litre
	1L	= Can, 1 litre

Greases	K	= Drum, 17 kg
	K15	= Drum, 15 kg
	K5	= Drum, 4.5 kg
	D1	= Can, 900 g
	D	= Can, 500 g
	P 500	= Cartridge, 500 g
	P 400/P 500	= Cartridge, 400 g/500 g
PSH 400/PSH 500	= Shuttle cartridge, 400 g/500 g	

Special products	0.5L	= Flask, 0.5 litre
	0.25L	= Flask, 0.25 litre
	0.125L	= Flask, 0.125 litre
	0.05L	= Flask, 0.05 litre

Sprays	SD 750	= Spray can, 750 ml
	SD 500	= Spray can, 500 ml
	SD 300	= Spray can, 300 ml
	SD 200	= Spray can, 200 ml
	SD 100	= Spray can, 100 ml
	SD 50	= Spray can, 50 ml

Note

Drum weights may vary according to specific weight of the product. The effective net weight is marked on the drum label.

PANOLIN	SAE	Properties/applications	Performance grade
PREMIUM 00170 00200 00230	30 40 50	Classic single-grade engine oil for petrol and diesel engines. Use: oldtimers up to about 1950; usually without oil filter. Motorcycles – see page 58. Drum codes: C, F, T, KA	API SB.
NOVA 00370 00400 00430 00460	20W-20 30 40 50	Single-grade oil for uncharged petrol and diesel engines. Use: older gasoline and diesel engines without charging in vehicles from about 1950 to 1976; usually with oil filter. Motorcycles – see page 58. Drum codes: C, F, T, KA, 1L:00430, 00460	API SF/CD. Approval: Steyr A.
EXTRA DIESEL 00660 00720 00780 00840	10W 20W-20 30 40	Single-grade oil for use in stationary diesel engines, also supercharged, hydraulic systems, gear drives and compressors. Drum codes: C, F, T, KA	ACEA E1/E2. API CG-4/SH. ILSAC GF-1. ZF TE-ML 03B, 4B. Approval: Terex Demag.
SAMURAI 02020	10W-40	Semi-synthetic multi-grade oil for petrol and diesel engines. Ideal all-season oil for mixed fleets. Drum codes: C, F, T, KA, 1L	ACEA A3/B4, E7. API CI-4/SL. Global DHD-1. ILSAC GF-1.
TARGET 02460	20W-50	High-viscosity mineral-based oil for older petrol engines in automobiles and motorcycles. Drum codes: C, F, T, KA, 5L	ACEA A3/B3. API SL/CF. ILSAC GF-3.

PANOLIN	SAE	Properties/applications	Performance grade
AVANIS SV-X 02670	5W-30	Synthetic lowSAPS light-running oil for petrol and diesel powered automobiles. Specially developed for VW Group vehicles with or without extended oil-change interval and particulate filter. Drum codes: C, F, T, KA, 1L	ACEA C3. API SN. Approvals: MB-Approval 229.51. *VW 504 00, 507 00.
AVANIS C1 02675	5W-30	Synthetic lowSAPS light-running oil for petrol and diesel powered automobiles (also with particulate filter). Specially for current Ford and Jaguar models. Drum codes: C, F, T, KA, 1L	ACEA C1, C2. Fiat 9.55535-S1. Ford WSS-M2C913-C, WSS-M2C913-D, WSS-M2C934-B. Jaguar/Land Rover STJLR.03.5005.
AVANIS C2 02679	0W-30	Synthetic lowSAPS light-running oil for petrol and diesel powered automobiles (also with particulate filter). Specially for current Peugeot and Citroën models. Drum codes: C, F, T, KA, 1L	ACEA C2. Fiat 9.55535-DS1, 9.55535-GS1. PSA B71 2312.
AVANIS C2 FE 02682	5W-20	Synthetic light-running lowSAPS oil for petrol and diesel engines. Specifically for vehicles requiring ACEA C2 viscosity class SAE 5W-20 engine oils, e.g. Honda, Subaru Trezia. Drum codes: C, F, T, KA, 1L	ACEA C2. API SM/CF.
SAMURAI C3 02684	5W-30	Synthetic low-SAPS light-running engine oil for petrol and diesel engines (also with particulate filter). Drum codes: C, F, T, KA, 1L	ACEA C3. API SN/CF. ILSAC GF-3. BMW Longlife-04. Mercedes Benz 229.51.

Footnote:

*VW spec valid also for Audi, Seat, Skoda

PANOLIN	SAE	Properties/applications	Performance grade
AVANIS C-X 02686	5W-30	Synthetic low-SAPS light-running engine oil for petrol and diesel engines (also with particulate filter). Specifically for vehicles requiring engine oils to MB-Approval 229.52, and for petrol and diesel engines in current Opel, Peugeot and Citroën models. Drum codes: C, F, T, KA, 1L	ACEA C2, C3. API SN. BMW Longlife-04. PSA B71 2290. Approvals: BMW Longlife-04. GM dexos2™. MB-Approval 229.52.
AVANIS C4 02690	5W-30	Synthetic low-SAPS light-running engine oil for petrol and diesel engines (also with particulate filter). Specifically for the latest Renault and Nissan models. Drum codes: C, F, T, KA, 1L	ACEA C4. Fiat 9.55535-S4. Mercedes-Benz 229.51. Renault RN 0720.
EXCLUSIVE JP 02700	5W-40	Synthetic low-SAPS light-running engine oil for Grand Cherokee 3.0 Diesel Jeep. Drum codes: C, F, T, KA, 1L	ACEA E6, E7, E9. API CJ-4. Chrysler MS 10902.
EXCLUSIVE BOOST 02771	5W-20	Synthetic engine oil with pronounced smooth-running properties (FE) for the most advanced generation of gasoline engines for gasoline engines of certain Ford, Jaguar and Land Rover models. CO ₂ reducing due to fuel-saving properties. Drum codes: C, F, T, KA, 1L	ACEA A1/B1, C5. API SN. ILSAC GF 5. Ford WSS-M2C948-B. Approval: Jaguar/Land Rover STJLR.03.5004.
EXCLUSIVE MAX 02805	5W-30	Synthetic easy-running oil for petrol and diesel engines. Specifically for automobiles and light commercial vehicles that require engine oils according to ACEA A5/B5. Drum codes: C, F, T, KA, 1L	ACEA A5/B5. API SL. ILSAC GF-3. Ford WSS-M2C913-D. Iveco Daily.
EXCLUSIVE BM-FE 02825	0W-30	Synthetic lowSAPS engine oil for gasoline and diesel engines with pronounced smooth running characteristics (FE – Fuel Economy). Especially for BMW passenger cars that require a motor oil according to BMW Longlife-12 FE. Drum codes: C, F, T, KA, 1L	ACEA C2. BMW Longlife-12 FE Fiat 9.55535-DS1, -GS1. PSA B71 2312.
EXCLUSIVE FJ 02826	0W-30	Synthetic engine oil with pronounced smooth-running properties (FE) for the most advanced generation of gasoline engines for certain Ford, Jaguar and Land Rover models. Drum codes: C, F, T, KA, 1L	ACEA C2. Ford WSS-M2C950-A. Approval: Jaguar/Land Rover STJLR.03.5007-16.

PANOLIN	SAE	Properties/applications	Performance grade
ZERO 02850	0W-20	Synthetic engine oil with outstanding light-running fuel economy (FE) properties, for the latest generation of environment-considerate petrol engines. Application: specifically for Volvo vehicles requiring engine oils to Volvo VCC RBS0-2AE specification. Environmental compatibility: CO ₂ reducing due to fuel-saving properties. Drum codes: C, F, T, KA, 1L	ACEA C5. API SN. Volvo VCC RBS0-2AE.
ZERO VLF 02851	0W-20	Fully synthetic engine oil with pronounced smooth-running properties (FE - Fuel Economy) for environmentally friendly petrol and diesel engines. Application: specific for vehicles of the Volkswagen Group that require a motor oil of specification 508 00, 509 00, respectively C20. Environmental compatibility: CO ₂ reducing due to fuel-saving properties. Drum codes: C, F, T, KA, 1L	Porsche C20. Approvals: VW 508 00, 509 00.
ZERO MJ 02852	0W-20	Synthetic engine oil with pronounced smooth running properties (FE - Fuel Economy) for environmentally friendly petrol and diesel engines. Use: for gasoline and diesel engines of certain Mercedes-Benz, Jaguar and Land Rover models. Environmental compatibility: CO ₂ reducing due to fuel-saving properties Drum codes: C, F, T, KA, 1L	ACEA C5. API SN. Approvals: Jaguar/Land Rover STJLR 51.5122. MB-Approval 229.71.
SAMURAI TOP 02990	5W-40	Synthetic light-running oil for petrol and diesel engines in automobiles and light trucks. Drum codes: C, F, T, KA, 1L	ACEA C3. ACEA A3/B4-08. API SN. BMW Longlife-04. Mercedes Benz 229.51. Porsche A40.

Footnote:

*VW spec valid also for Audi, Seat, Skoda

PANOLIN	SAE	Properties/applications	Performance grade
DAYTONA LA 03095	5W-40	Synthetic lowSAPS light-running oil for petrol and diesel powered automobiles also with particulate filter. Drum codes: C, F, T, KA, 1L	ACEA C3. API SN. Fiat 9.55535-S2. Ford WSS-M2C917-A. Porsche A40. *VW 502 00, 505 00, 505 01. Approvals: BMW Longlife-04. MB-Approval 229.51.
DAYTONA 03100	10W-40	Semi-synthetic petrol and diesel engine oil for automobiles and light commercial vehicles. Drum codes: C, F, T, KA, 1L	ACEA A3/B4. API SL/CF. ILSAC GF-3. Mercedes-Benz 229.1 PSA B71 2300. VW 501 01, 502 00, 505 00.
DAYTONA LA-V 03120	5W-30	Synthetic light-running multigrade oil for petrol and diesel engines for VW Group vehicles with LongLife service (including pump-injector diesel engines). Drum codes: C, F, T, KA	ACEA C3. API SN. Approvals: BMW Longlife-04. *VW 504 00, 507 00.
INDY 03250	10W-40	Synthetic light-running oil for petrol and diesel engines in automobiles and light commercial vehicles. Drum codes: C, F, T, KA, 1L	ACEA A3/B4. API SL/CF. ILSAC GF-3. BMW Spezialöl. Mercedes-Benz 229.1. PSA B71 2300.
CHAMPION 03814 03824 03836 03845	0W-40 5W-40 10W-60 20W-50	Fully synthetic high-end oil for petrol and light diesel engines. Specially for extremely heavy duty use in sports or racing cars with or without supercharging and multivalve. Drum codes: C, F, T, KA, 1L	ACEA A3/B4. API SN/CF. BMW Longlife-01. Fiat 9.55535-Z2. Ford WSS-M2C937-A. Porsche A40. Renault RN0700, RN0710. *VW 501 01, 502 00, 505 00. Approval: MB-Approval 229.5.

Footnote:

*VW spec valid also for Audi, Seat, Skoda

PANOLIN	SAE	Properties/applications	Performance grade
SAMURAI V 04505	15W-40	Mineral oil based oil for heavy-duty diesel engines, also supercharged, and for older petrol engines. Enables longer oil change intervals with heavy diesel engines. Drum codes: C, F, T, KA	ACEA A3/B4, E7. API CI-4/SL. JASO DH-1. MAN M 3275. MTU oil category 2.
UNIVERSAL FE 05300	10W-40	Semi-synthetic oil for diesel and petrol engines, also supercharged. Universal engine oil for mixed fleets. Drum codes: C, F, T, KA, 1L	ACEA A3/B4, E7. API CI-4/SL. Global DHD-1. ILSAC GF-1. Deutz DQC III-10. Approvals: MAN M 3275. Terex Demag.
SAMURAI LA 05414	10W-40	LowSAPS multigrade oil for heavy diesel engines with or without turbocharger, and for older petrol engines. Ideal for diesel engines fitted with exhaust gas particulate filter. As universal engine oil for mixed fleets. Drum codes: C, F, T, KA	ACEA E9. API CJ-4/SN. Cat ECF-3, ECF-2, ECF-1-a. Cummins CES 20081. MAN M3575. Mercedes-Benz 228.31. Volvo VDS-4.
UNIVERSAL LA-X 05424 05426	10W-40 15W-40	LowSAPS multigrade oil for heavy diesel engines with or without turbocharger, and for older petrol engines. Ideal for diesel engines fitted with exhaust particulate filter. As universal engine oil for mixed fleets. Drum codes: C, F, T, KA	ACEA E9. API CJ-4/SN. CAT ECF-3, ECF-2, ECF-1-a. JASO DH-2. Approvals: Deutz DQC III-10 LA. Mack EO-O Premium Plus. MB-Approval 228.31. MTU 2.1 incl. «Series 60». Renault VI RLD-3. Volvo VDS-4.
SAMURAI EU 05810	10W-40	Synthetic lowSAPS diesel engine oil for modern environmentally friendly diesel engines up to EURO 6. Drum codes: C, F, T, KA	ACEA E6, E7, E9. API CK-4. CAT ECF-3. JASO DH-2. Cummins CES 20081. DAF. Deutz DQC IV-10 LA. Mack EO-O Premium Plus. MAN M 3477. MTU oil category 3.1. Renault VI RLD-3. Scania LowAsh. Volvo VDS-4. Approval: MB-Approval 228.51.

PANOLIN	SAE	Properties/applications	Performance grade
DIESEL SCA PLUS 05642	10W-40	Synthetic high-performance oil for heavy-duty diesel engines. For extremely long oil change intervals in heavy-duty EURO 4/5/6 diesel engines without particulate filter. For Scania, also with particulate filter. Drum codes: C, F, T, KA	ACEA E4, E7. API CF. Global DHD-1. MTU oil category 3. Approvals: Mack EO-N. Renault VI RLD-2. Scania LDF-2, LDF-3. Volvo VDS-3.
ECOMOT 07310	5W-30	Synthetic lowSAPS diesel engine oil with excellent smooth-running properties (FE – fuel economy) for modern environment-considerate diesel engines up to EURO 6 classification. Application: 4-stroke diesel engines in heavy and light commercial vehicles, in construction, forestry and municipal machinery Environment-compatibility: OECD 302 C > 40% Drum codes: C, F, T, KA	ACEA E6, E7, E9. API CJ-4/SN. JASO DH-2. CAT ECF-1-a, ECF-3, ECF-2. Cummins CES 20078, 20081. DAF. Approvals: Deutz DQC IV-10 LA. Mack EO-O Premium Plus. MAN M 3477, M 3677. MB-Approval 228.51, 235.28. MTU oil category 3.1. Renault VI RLD-3. Scania LDF-4. Voith Retarder Class B. Volvo VDS-4.
ECOMOT 07315	10W-30	Synthetic lowSAPS engine oil with pronounced light-running - properties (FE – Fuel Economy) for modern environment-considerate diesel engines up to EURO 6. Application: 4-stroke diesel engines in heavy and light commercial vehicles, in construction, forestry and municipal machinery. Drum codes: C, F, T, KA	ACEA E6, E7, E9. API CK-4. CAT ECF-3. Approvals: Deutz DQC IV-10 LA. Mack EO-O Premium Plus. MTU oil category 3.1. Renault VI RLD-3. Volvo VDS-4.
ECOMOT 07320	10W-40	Synthetic lowSAPS engine oil for modern environment-considerate diesel engines up to EURO 6. Drum codes: C, F, T, KA	ACEA E6, E7, E9. API CJ-4. CAT ECF-3. Approvals: Deutz DQC IV-10 LA. Mack EO-O Premium Plus. MB-Approval 228.51. MTU oil category 3.1. Renault VI RLD-3. Scania LowAsh. Volvo VDS-4.

PANOLIN	SAE	Properties/applications	Performance grade
BIOMOT LX 07350	10W-40	Fully synthetic environment-considerate lowSAPS oil for modern diesel aggregates. Particularly suitable for diesel engines with exhaust treatment systems. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	ACEA E6, E7, E9. API CJ-4/SN. CAT ECF-3, ECF-2, ECF-1- a. JASO DH-2.
BIOMOT LD 07405	10W-40	Fully synthetic environment-considerate multigrade oil for extremely heavy-duty diesel engines with long oil change intervals. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	ACEA E4, E7. API CI-4. Approval: Terex Demag.
BIOMOT LE-X 07410	5W-30	Fully synthetic, lowSAPS multigrade ECL for extremely heavy-duty diesel engines with long oil change intervals. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	ACEA E6, E7, E9. API CI-4. CAT ECF-1-a.

Footnote:

All performance levels on this page are spec-compatible

PANOLIN	SAE	Properties/applications	Performance grade
EXTRA DIESEL DD 14520 14590	30 40	Engine oil with low sulphate ash content (0.87%) specifically for Detroit Diesel 2-stroke diesel engines. Drum codes: C, F, T, KA	API CF/SJ, CF-2. Detroit Diesel 2-stroke, series: 53, 71, 92, 149. Approval: MTU – Engine oils for 2-stroke engines.
GASMO KG 6 16120 16130	30 40	Lubricating oil for sewer gas engines; medium ash content. Sulphate ash content: 0.70% TBN: 6.0 mg KOH/g Drum codes: C, F, T, KA	API CD.

PANOLIN	Visc.	Properties/applications	Performance grade
CONSTAR UTTO STOU 18005 SAE 10W-30 18010 SAE 10W-40		STOU (Super Tractor Oil Universal) Universal lubricating oil of the latest generation. For the lubrication of engines, transmissions and hydraulic systems in construction, agricultural and forestry machinery.	ACEA E7. API CI-4/SF, GL-4, GL-5 (high torque/low speed). Allison C-4. Caterpillar TO-2. Fendt Vario-Getriebe. Ford M2C159-B. MAN 271. Massey Ferguson M1139, M1144, M1145.
		Drum codes: C, F, T, KA, 5L	
CONSTAR UTTO 802 18052 ISO 32 – 46 SAE 5W-20		UTTO (Universal Tractor Transmission Oil) Universal lubricating oil of the latest generation. For systems with high thermal loading and wear protection requirements. Ensures perfect function and cooling of oil-lubricated multi-plate clutches and brakes.	API GL-4. CNH MAT 3505, 3509, 3525. FNHA-2-C-200. Ford M2C86-B, John Deere JDM J20 D. M2C86-C.
		Drum codes: C, F, T, KA, 5L	
CONSTAR UTTO 803 18053 ISO 46 – 68 SAE 10W-30		UTTO (Universal Tractor Transmission Oil) Universal lubricating oil of the latest generation. For systems with high thermal loading and wear protection requirements. Ensures perfect function and cooling of oil-lubricated multi-plate clutches and brakes.	API GL-4. CNH MAT 3505, 3525. Ford M2C134-D. John Deere JDM J20 C. Komatsu KES 07.866. Massey Ferguson M1135, M1141, M1143.
		Drum codes: C, F, T, KA, 5L	
CONSTAR UTTO 808 18058 ISO 68 – 100 SAE 20W-30		UTTO (Universal Tractor Transmission Oil) Universal lubricating oil of the latest generation. For systems with high thermal loading and wear protection requirements. Ensures perfect function and cooling of oil-lubricated multi-plate clutches and brakes.	API GL-4. Ford M2C86-B, M2C86-C. John Deere JDM J20C. Massey Ferguson M1135, M1141.
		Drum codes: C, F, T, KA, 5L	
CONSTAR UTTO 824 18074 ISO 100 SAE 20W-40		UTTO (Universal Tractor Transmission Oil) Universal lubricating oil of the latest generation. For systems with high thermal loading and wear protection requirements. Ensures perfect function and cooling of oil-lubricated multi-plate clutches and brakes.	API GL-4. Allison C-4. Case MS 1206, MS 1207. Ford M2C48-C2. Massey Ferguson M1144. New Holland 410 B. ZF TE-ML 05F, 06K, 17E, 21F.
		Drum codes: C, F, T, KA, 5L	

PANOLIN	SAE	Properties/applications	Performance grade
EP GEAR 20700 20850	80W 140	Mineral-based gear oil for transmission and differentials in commercial vehicles, automobiles, earth-moving, forestry and agricultural machinery. Drum codes: C, F, T, KA	API GL-4. MIL-L-2105. MAN 341 type E1, 341 type Z2. ZF TE-ML 02B, 17A. Approval: MB-Approval 235.1.
PRIMOGEAR DC 75W 21311	75W	Low viscosity, synthetic high-performance gear oil for the automotive sector. For manual and dual clutch transmissions. Excellent oxidation and shear stability. Drum codes: C, F, T, KA, 5L	API GL-4. BMW MTF LT-3. Toyota LF. Ford M2C200-D2. Mercedes-Benz 235.73. PSA B71 2310.
SUPER DUTY 22500 22600	90 (85W-90) 250	Mineral-based heavy-duty gear oil primarily for heavily loaded hypoid drives and axles. SUPER DUTY 80W-90 and 85W-140 are multigrade oils suitable for a wide temperature range. Drum codes: C, F, T, KA	API GL-5. MIL-L-2105 D. Approvals: MAN 342 type M1. MB-Approval 235.0. Terex Demag. ZF TE-ML 16C, 17B, 19B, 21A.
SAMURAI GEAR 22990	80W-90	Mineral-based universal gear oil for axle drives and gearboxes in commercial vehicles, automobiles, earth-moving, forestry and agricultural machinery. Ensures perfect gearbox synchronisation and optimal protection against hypoid axle drive wear even under extreme loading. Drum codes: C, F, T, KA	API GL-4/5. MIL-L-2105, MIL-L-2105 D.
TOPGEAR 23300	80W-90	Universal gear oil for axle drives and gearboxes in commercial vehicles, automobiles, earth-moving, forestry and agricultural machinery. Ensures perfect gearbox synchronisation and optimal protection against hypoid axle drive wear even under extreme loading. Drum codes: C, F, T, KA	API GL-4/5. MIL-L-2105, MIL-L-2105 D. Approvals: MAN 341 type E2, 341 type Z2, 342 type M2. ZF TE-ML 02B, 05A, 12L, 12M, 16C, 17H, 19B, 21A.
TRANSGEAR 23600	75W-80W	Semi-synthetic longlife light-running gear oil for extended oil change intervals. Also for use in ZF intarders. Drum codes: C, F, T, KA	API GL-4. MIL-L-2105. MAN 341 type E1, type E2, type E3, type Z2. ZF TE-ML 02D.
TRANSYNTH 23650	75W-85W	Fully synthetic light-running gear oil for extended oil change intervals in manual gearboxes. Drum codes: C, F, T, KA	API GL-4/5. MIL-L-2105, MIL-L-2105 D. MAN M 3343 Typ S. Mercedes-Benz 235.4.

PANOLIN	SAE	Properties/applications	Performance grade
SUPER DUTY SPECIAL 23750	75W-90	Semi-synthetic universal gear oil for synchromesh gearboxes and axle drives in automobiles. Drum codes: C, F, T, KA	API GL-4/5. MIL-L-2105, MIL-L-2105 D.
SUPER DUTY SYNTH 25000 25200	75W-90 75W-140	Fully synthetic heavy-duty gear oil for synchromesh gearboxes and axle drives in commercial vehicles and automobiles. Drum codes: C, F, T, KA, 5L: 25000	API GL-4/5. MIL-L-2105, MIL-L-2105 D. Approvals: MAN 341 type E3, 341 type Z2, 342 type S1. MB-Approval 235.8. Scania STO 1:0. ZF TE-ML 02B, 05A, 12L, 12N, 16F, 17B, 19C, 21A.
SUPER DUTY SYNTH MB 25300	75W-90	Fully synthetic heavy-duty gear oil for synchromesh gearboxes particularly the Mercedes-Benz Actros series. Drum codes: C, F, T, KA	API GL-4. MIL-L-2105. Mercedes-Benz 235.1, 235.5. 235.11. Approvals: Terex Demag.
BIOGEAR RS 25325	80W-90	Fully synthetic High-Pressure ECL for gearboxes, differentials and final drives. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA, 5L	API GL-4/5. Approvals: Airo by TIGIEFFE s.r.l. Sequani Meccanica/ CTE.
SAMURAI SD LS 25540	90	Special heavy-duty gear oil for rear axles with differential lock. Contains LS (limited slip) additives preventing knock and rattle in self-locking differentials. Drum codes: C, F, T, KA	API GL-5. LSD (Limited Slip Differential). MIL-L-2105 B.
SUPER DUTY LS 25550 25590	90 85W-140	Special heavy-duty gear oil for rear axles with differential lock. Contains LS (limited slip) additives preventing knock and rattle in self-locking differentials. Drum codes: C, F, T, KA	API GL-5. LSD (Limited Slip Differential). MIL-L-2105 B. Approvals: Dornier. ZF TE-ML 05C, 12C, 16E, 21C.
SUPER DUTY SYNTH LS 25650 25700	75W-90 75W-140	Fully synthetic high-performance gear oil specifically for synchromesh gearboxes and axle drives with self-locking differential. Contains LS (Limited Slip) agents to prevent knocking and rattling in self-locking differentials. Drum codes: C, F, T, KA	API GL-4/5. LSD (Limited Slip Differential). MIL-L-2105, MIL-L-2105 D.

PANOLIN	Properties/applications	Performance grade
ATF MULTI 26050	ATF for the GM Dexron II D specification. Applications: automatic transmissions and servo steering in automobiles, commercial vehicles and earth-moving machinery, stepless drives, hydraulic systems and fluid flywheels. Drum codes: F, T, KA	Allison C-4. GM Dexron II D. ZF TE-ML 04D, 05L, 09, 11A, 14A, 17C. Approvals: MB-Approval 236.3 Voith H55.6335.xx.
ATF TRANS CVT 26090	Synthetic universally applicable gear oil for C ontinuously V ariable T ransmissions (CVT). Applications: for stepless CVT gearboxes in automobiles. Drum codes: F, T, KA	Meets various manufacturer performance standards – see product sheet.
ATF DEXRON III 26150	ATF for the GM Dexron III G specification. Applications: automatic transmissions and servo steering in automobiles, commercial vehicles and earth-moving machinery, stepless drives, industrial hydraulic systems. Drum codes: F, T, KA, 5L	Allison C-4. GM DEXRON II D, II E, III G. Mercedes-Benz 236.1, 236.6. ZF TE-ML 02F, 03D, 04D, 05L, 11A, 11B, 14A, 17C. Approvals: Terex Demag. Voith H55.6335.xx.
ATF SUPER VTX 26200	ATF for the GM Dexron III H specification. Applications: automatic transmissions and servo steering in automobiles, commercial vehicles and earth-moving machinery, infinitely variable drives, fluid flywheels and hydraulic systems; with extended oil changes. Drum codes: F, T, KA	Meets various manufacturer performance standards – see product sheet. Approvals: MB-Approval 236.6, 236.9 . Voith H55.6336.xx. ZF TE-ML 04D, 14B, 16L, 17C.
ATF SYNTH 26400	Fully synthetic ATF for the GM Dexron II E specification. Applications: automatic transmissions and servo steering in automobiles, commercial vehicles and earth-moving machinery, with extended oil changes. Drum codes: F, T, KA	Allison C-4. Caterpillar TO-2. Ford M, M2C 138-CJ, M2C 166-H, Mercon GM Dexron II D, II E. ZF TE-ML 04D, 05L, 09X, 14B, 16L. Approvals: MB-Approval 236.8. Voith H55.6336.xx.

PANOLIN	Visc.	Properties/applications	Performance grade
SAMURAI UTTO 26705 46 – 68 SAE 10W-30 26710 68 – 100 SAE 20W-30		High-performance wide-range UTTO (Universal Tractor Transmission Oil) for tractors, agricultural and earth-moving machinery. Applications: machines with central gearbox lubrication, axle drives, wet brakes and hydraulic systems. Drum codes: C, F, T, KA	API GL-4.
BIOFLUID SBH 26811 SAE 10W-30 26813 46		Fully synthetic environment-considerate UTTO for the combined lubrication of powershift gearboxes, axles, hydraulic and wet brakes, and for hydraulically driven winches with multi-plate brakes. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	ISO 6 743-4/HEES. Approval: Sennebogen 012016.
BIOFLUID ZFH 26820 68		Fully synthetic environmentally compatible UTTO for combined use in gearboxes, axles, hydraulic systems and retarders in agricultural and earth-moving machinery. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	Approvals: Gürdesan. Stiebel Getriebe ZF TE-ML 03H, 06G, 07E.

PANOLIN	Visc.	Properties/applications	Performance grade
TOCAT 4 27040 27080 27120	SAE 10W SAE 30 SAE 50	Special lubricant for Caterpillar powershift gearboxes, winches, wet brakes, hydraulic retarders, differentials, clutches and final drives. Drum codes: C, F, T, KA	Allison C3, C4. Caterpillar TDTO, TO-2, TO-4. Komatsu KES 07.868.1.
TOCAT TMS 27130	SAE 10W-40	Gear oil for Caterpillar machinery. Optimized for use over an extremely wide temperature range. Drum codes: C, F, T, KA	Caterpillar TO-4M.
SACAT 27130	SAE 10W-40	Synthetic gear oil for Caterpillar wheeled loaders. Applications: Powershift gearboxes, APT (Advanced Powertrain Transmission). Drum codes: F, KA	Caterpillar SATO (Special Application Transmission Oil).
IG CLP 27210 27220 27230 27260	150 220 320 1000	High performance lubricant for industrial drives. For industrial drives in machine tools, elevators, conveyor systems and calenders. Drum codes: C, F, T, KA, 5L: 27220	DIN 51 517-3/CLP. Approvals: Brevini Power Transmission. Terex Demag.
GEAR CLP FL 27274	220	High performance lubricant for industrial drives. Applications: Flender industrial drives, gear drives in machine tools, elevators, conveyor systems and calenders. Drum codes: C, F, T, KA	DIN 51 517-3/CLP. Approval: Flender.
EP GEAR SYNTH 27320 27325 27330 27335 27340 27345	68 100 150 220 320 460	Fully synthetic environment-considerate high-performance gear oil for industrial drives, roller and sleeve bearings. Environment-compatibility: OECD 301 B > 60%. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Drum codes: C, F, T, KA	*DIN 51 517-3/CLP. Approvals: Brevini Power Transmission. Gürdesan. Italtractor ITM SpA. James Walker Bi-O-Lion. Ortlinghaus ON 9.2.10. Rolls-Royce Marine AS – Brattvaag Deck Machinery. Stiebel Getriebe. ZF TE-ML 04M, 04Q.

Footnote:

*Standard for mineral oil

PANOLIN	Visk.	Properties/applications	Performance grade
EP GEAR SYNTH VTD 27410	*30	Fully synthetic ECL specially developed for VOITH torque converters. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	
SYNTHGEAR 27550 27600 27650 27700 27750 27800	68 100 150 220 320 460	Fully synthetic polyglycol based industrial gear oil for high performance industrial gear drives. Not mixable with mineral oils – flush before filling. Drum codes: C, F, T, KA	DIN 51 502/CLP PG, **DIN 51 517-3/CLP. Approval: Brevini Power Transmission.
TECSYNTH 28050 28060 28070 28080 28090 28100 28110 28120 28130 28140 28150	15 22 32 46 68 100 150 220 320 460 680	Ultra high performance long-life synthetic industrial gear oil based on PAO. Applications: for high performance bearings, gears and circulation systems at very high, very low or widely fluctuating temperatures. Drum codes: C, F, T, KA	DIN 51 502/CLP HC, **DIN 51 517-3/CLP. Approvals: Arburg-Spritzgiess- maschinen. Brevini Power Transmission. Mägerle AG Maschinenfabrik. Smit Textile.
TECSYNTH 28210	75W-90	Ultra high performance synthetic industrial gear oil based on PAO, with additives against corrosion and wear. Application: central lubrication in Sulzer weaving machine G6200/L9400. Drum codes: C, F, T, KA	API GL-5. Approvals: Smit Textile. Sulzer Textil.
ORCON® GEAR 28250 28260 28270 28280 28290	150 220 320 460 680	Fully synthetic NSF/H1 H1 gear oil for the pharmaceutical, food and animal feed industries. Applications: heavy-duty bearings, gear drives and circulation systems at very high, very low or widely fluctuating temperatures. Drum codes: C, F, T, KA, 5L	**DIN 51 517-3/CLP. Approvals: NSF cat. H1 reg. Arburg-Spritzgiess- maschinen. Brevini Power Transmission. Halal certificate. Kosher certificate. Rotork Fluid Systems.

Footnotes:

*30 is not classified under ISO VG

** Standard for mineral oil

STELLA MARIS

28445	68
28450	100
28455	150
28460	220
28465	320

Fully synthetic stern tube lubricant, biodegradable.
Applications: stern tubes.
Environment-compatibility: EN 16 807. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP).

Drum codes: C, F, T, KA

Approvals:

ABS Type Approval.
Aegir-Marine.
Carco.
Gürdesan.
James Walker –
Bi-O-Lion.
Kemel.
Lagersmit – FKM-EAL.
SKF Marine – Simplex
Compact Seal Viton
Pod, Viton Bio.
Tenmat Feroform T147.
Versitec-Marine –
Vanguard Seals.
Wärtsilä, Bio-Seals.

MARGEAR

28518	68
28520	100
28522	150
28524	220

Fully synthetic high-performance gear oil for maritime applications, environment-considerate, based on naturally renewable ester; exceptionally long service life.
Applications: gear drives and gearboxes, roller bearings and slide bearings.
Environment-compatibility: Readily biodegradable. EN 16 807. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP).

Drum codes: C, F, T, KA

DIN 51 502/CLP E,
* 51 517/CLP.

Approvals:

Gürdesan.
James Walker –
Bi-O-Lion.
Kawasaki, Side Thruster.
Kemel.
Kumera, Gears.
Lagersmit – FKM-EAL.
Ortlinghaus,
ON 9.2.10.
SKF Marine GbmH –
Simplex-Compact Seals
with VitonBio (FKM).
Tenute, NBR-MN002,
HNBR-MH007.
Wärtsilä, Bio-Seals.

PANOLIN	Properties/applications	Performance grade
ANTI-FROST MT-125 29025	Radiator antifreeze concentrate based on ethylene glycol. OAT (Organic Acid Technology). Protects radiators against frost and corrosion. Note: before use in cast iron engines, please consult us. Drum codes: F, T, KA	ASTM D3306, D4985.
ANTI-FROST MT-325 29050	Proven radiator antifreeze concentrate based on ethylene glycol. Hybrid technology (organic and inorganic inhibitors). Protects the radiator against frost and corrosion. Especially well suited for use in aluminium motors. Nitrite, amine and phosphate free. Drum codes: F, T, KA	ASTM D3306, D4985. BS 6580:2010. SAE J1034. Approvals: MAN 324 type NF. MB-Approval 325.0. MTU MTL 5048.
ANTI-FROST PF-20-N 29060	Coolant antifreeze concentrate based on propylene glycol for use in heating systems and cooling systems. Protects the system against frost and corrosion. Sodium nitrite free. Contains an anti-foaming agent. Drum codes: F, T, KA	
ANTI-FROST MT-650 29075	Long-term radiator antifreeze concentrate of the latest generation based on ethylene glycol. Not only provides safe protection against freezing, but also excellent year-round corrosion protection of the cooling system. For high-performance engines with aluminium or cast iron cylinder blocks. Note: PANOLIN ANTI-FROST MT-650 can be mixed with VW G 11, VW G12 and VW G12+ coolants. Drum codes: F, T, KA	ASTM D3306, D4985. BS 6580:2010. SAE J1034. VW TL 774-G, G 12+. Approvals: Deutz DQC CC-14. MAN 324 type Si-OAT. MB-Approval 325.5.

FUEL ADDITIVE

29200

Cleaning and anti-wear additive for petrol and diesel engines.
 Binds condensate water.
 Dosing: 1 %
 Drum codes: F, KA, 5L

KS 85-50

29250

Conservation additive for engine, gearbox and hydraulic oil, etc.
 Enables interior conservation of engines, gearboxes and hydraulic systems for 6 – 12 months.
 Dosing: 30% in oil without additives, 10% in oil with additives
 Drum codes: C, F, T, KA

SYSTEM CLEANER MGH

29280

Flushing fluid for oil systems.
 Removes sludge and deposits from oil lines.
 Dosing: for engines 10.0%
 for gearboxes 2.5%
 for hydraulic systems 1.5%
 Drum codes: C, F, KA, 5L

WINWASH

29300

Blue, isopropyl alcohol based screen washing concentrate.
 Dosing: summer 10%, winter 30 – 50%
 Note: also available already mixed.
 Drum codes: C, F, KA

VCP

29400

Additive for environmentally friendly, as well as conventional gear and hydraulic oils based on mineral oil. Protects against water-induced surface changes and prevents corrosion in the air space above the oil level.
 Drum codes: C, F, KA

MOS

29500

Molybdenum disulphide (MoS₂) additive for heavily loaded gear oils.
 Dosing: 5%
 Drum codes: C, F, T, KA

LS PLUS 1

29550

Additive concentrate for gear oils, used in locking differentials demanding limited slip properties.
 Dosing: 5%
 Drum codes: C, F, T, KA, 1L

LHM

29700

Mineral oil-based hydraulic fluid for hydropneumatic suspension and hydraulic brake actuation.
 Application: e.g. in Citroën automobiles and New Holland agricultural machinery.
 Drum codes: C, F, T, KA

BRAKE 22

29720

High grade paraffin-based brake fluid.
 Application: in brake systems demanding mineral oil based brake fluids.
Do not use or mix with DOT 3, 4 and 5.1 brake fluids.
 Drum codes: C, F, T, KA, 1L

PANOLIN	ISO VG	Properties/applications	Performance grade
H 30560	*800	Paraffin-based mineral oil without additives, with good oxidation resistance. For driving gear on old railcars. Drum codes: C, F, T, KA	DIN 51 501/L-AN, 51 517-1/C. ISO 6743-1/L-A.
HMS 30680	220	Mineral oil based low-odour machine oil ideal for use in excursion steamships with open machine-room. Drum codes: C, F, T, KA	DIN 51 501/L-AN. DIN 51 517-1/C. ISO 6743-1/L-A.
INDOL 30910 30940 30970 31000 31030 31060 31090 31120	32 46 68 100 150 220 320 460	Mineral oil based zinc-free industrial lubricant. Applications: in compressors, vacuum pumps, roller and sleeve bearings, and in hydraulics systems not requiring EP hydraulic oils. Drum codes: C, F, T, KA	DIN 51 502/L-AN. DIN 51 506/VB/VB.L DIN 51 517- 2/CL. DIN 51 524- 1/HL. ISO 6743-4/L-HL, 6743-6/L-CB.
TECOL 31300 31360 31420	2 5 10	Mineral oil based zinc-free lubricant for high-speed spindles on machine tools and textile machinery. Also suitable for hydraulics systems. Drum codes: C, F, T, KA	DIN 51 517-2/CL, 51 524-2/HLP. ISO 6743-2/L-F.

Footnote:

*800 is not classified under ISO VG

PANOLIN	ISO VG	Properties/applications	Performance grade
SAMURAI HLP Z 31564 31566 31568	32 46 68	Mineral oil based zinc additivated industrial/hydraulic oil. Applications: for hydraulic systems of machine tools and injection moulding machines, industrial plant, presses, compressors and lightly loaded gear drives. Drum codes: C, F, T, KA	DIN 51 524-2/HLP. ISO 6743-4/L-HM.
HLP Z 31735 31740 31745	32 46 68	Mineral oil based zinc additivated industrial/hydraulic oil. Applications: for hydraulic systems of machine tools and injection, moulding machines, industrial plant, presses, compressors and lightly loaded gear drives. Drum codes: C, F, T	DIN 51 524-2/HLP. ISO 6743-4/L-HM. Approvals: Engel. Macor Marine.
SAMURAI HLP 31764 31766 31768	32 46 68	Mineral oil based zinc-free industrial/hydraulic oil. Applications: for hydraulic systems of machine tools and injection moulding machines, industrial plant, presses, compressors and lightly loaded gear drives. Drum codes: C, F, T, KA	DIN 51 524-2/HLP. ISO 6743-4/L-HM.
HLP 31950 31980 32010 32040 32070 32100 32130 32190	15 22 32 46 68 100 150 320	Mineral oil based zinc-free industrial/hydraulic oil. Applications: for hydraulic systems of machine tools and injection moulding machines, industrial plant, presses, compressors and lightly loaded gear drives. Drum codes: C, F, T, KA	DIN 51 524-2/HLP. ISO 6743-4/L-HM. Kraus Maffei. Approvals: Arburg. FAR. Netstal. Macor Marine. Rexroth (Bosch Group) RD 90 220.
TENSHYD 32412 32414	15 32	Zinc-free low temperature hydraulic fluid based on selected mineral oils. Applications: Ideal for hydraulic systems operating also at very low temperatures. Typically for mountain railway/cableway and ski lift hydraulic systems (e.g. in brakes and emergency brakes, clamping cylinders and emergency drives) Drum codes: C, F, T, KA	DIN 51 524-3/HVLP. ISO 6743-4/L-HV.
SAMURAI HLP-D 46 32566	46	Zinc free hydraulic/industrial lubricant on mineral oil basis. Application: for injection moulding machines operating at high pressures and/or high temperatures. Drum codes: C, F, T, KA	DIN 51 502/HLPD. ISO 6743-4/L-HM.
HLP PLUS 33170 33180 33190 33200	22 32 46 68	High performance mineral oil based zinc-free industrial hydraulic-oil. Greatly extends oil-change intervals. Applications: high performance injection moulding machines, presses and hydraulic systems. Complies with KraussMaffei specification. Drum codes: C, F, T, KA	DIN 51 524-2/HLP. ISO 6743-4/L-HM. Kraus Maffei. Approvals: Arburg. Engel. Netstal. Rexroth (Bosch Group) RD 90 220. Wittmann Battenfeld.

PANOLIN	ISO VG	Properties/applications	Performance grade
UNI 10W-20 33220		Mineral oil based multigrade hydraulic fluid containing zinc and additives against ageing, oxidation and wear. Applications: e.g. in excavation machinery hydraulic systems. Drum codes: C, F, T, KA	DIN 51 524/HVLP-D.
SAMURAI HVLP Z 33224 33226 33228	32 46 68	Mineral oil based zinc additivated HVLP hydraulic/industrial oil Contains an additive that improves viscosity-temperature behaviour. Applications: in hydraulic systems subject to wide temperature variations. Drum codes: C, F, T, KA	DIN 51 524-3/HVLP. ISO 6743-4/LHV.
HVLP Z 33235 33240	32 46	Mineral oil based zinc additivated HVLP hydraulic/industrial oil. Contains an additive that improves viscosity-temperature behaviour. Applications: in hydraulic systems subject to extreme temperature variations. Drum codes: C, F, T	DIN 51 524-3/HVLP. ISO 6743-4/LHV. Approvals: Macor Marine. Terex Demag.
SAMURAI HVLP 33264 33266 33268	32 46 68	Mineral oil based zinc-free multigrade HVLP hydraulic oil. Contains an additive that improves viscosity-temperature behaviour. Applications: in hydraulic systems subject to extreme temperature variations. Drum codes: C, F, T, KA	DIN 51 524-3/HVLP. ISO 6743-4/LHV.
HLP UNI 33300 33350 33400 33450 33500 33550	15 22 32 46 68 100	Mineral oil based zinc-free multigrade HVLP hydraulic oil with an additive greatly improving the viscosity index for use over extreme temperature ranges. Applications: in hydraulic systems subject to extreme temperature variations. Drum codes: C, F, T, KA	DIN 51 524-3/HVLP. ISO 6743-4/LHV. Approvals: Macor Marine. Rexroth (Bosch Group) RD 90 220. Terex Demag.
HVI-R 33760	46	Red, mineral oil based zinc-free multigrade HVLP hydraulic oil with an additive greatly improving the viscosity index for use over extreme temperature ranges. Applications: e. g. in hydraulic systems of snow smoothers. Drum codes: C, F, T, KA	DIN 51 524-3/HVLP. ISO 6743-4/LHV.
POWERSYNTH S 33880 33910 33920	15 46 68	High performance zinc-free fully synthetic hydraulic/industrial oil. Enables much longer oil change intervals. Applications: high-pressure injection moulding machines, hydraulic systems and presses. Drum codes: C, F, T, KA	*DIN 51 524-3/HVLP. *ISO 6743-4/LHV. Approval: Rexroth (Bosch Group) RD 90 220.

Footnote: *norm for mineral oil

PANOLIN	ISO VG	Properties/applications	Performance grade
SPRINT 34544 34546	32 46	Synthetic high-performance hydraulic fluid, zinc-free and environment-friendly. Ester blend with modified unsaturated esters. Applications: mainly as hydraulic oil for earth-moving, forestry and industrial machinery and in hydraulic steel structures. Environment-compatibility: OECD 301 B > 60%. EN 16807. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Drum codes: F, KA	ISO 15380/HEES.
HLP SYNTH ECO 34910 34912 34914 34916	15 22 32 46	Fully synthetic high-performance hydraulic fluid, zinc-free and environment-friendly, on saturated ester basis combined with special additives. Applications: mainly as hydraulic oil for earth-moving, forestry and industrial machinery and in hydraulic steel structures. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	ISO 15380/HEES.
HLP SYNTH 35020 35030 35040 35050 35060	15 22 32 46 68	Fully synthetic zinc-free ECL for hydraulic systems. Based on saturated ester. Enables much longer oil change intervals «lifetime filling». Applications: mainly as hydraulic oil for earth-moving, forestry and industrial machinery and in hydraulic steel structures. Environment-compatibility: OECD 301 B > 60%. Environmental labels from: Czech Republic, Germany, Italy, Japan, Korea, Sweden, USA. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Drum codes: C, F, T, KA	ISO 15380/HEES. ASTM D 943 (Dry TOST test) > 3 000 h. ASTM D 2070 (mod. 1 680 h). ASTM D 8029. Vickers V104 C. Approvals: approved by numerous manufacturers.
HLP SYNTH E 35625 35630 35635 35640 35645	15 22 32 46 68	Fully synthetic, zinc-free ECL for hydraulic systems. Based on saturated ester using naturally regenerative resources. For hydraulic applications where hydraulic fluids complying with the European Eco Label are prescribed. Environment-compatibility: OECD 301 B > 60%. EU Ecolabel. Authority for regenerative raw materials e.V. Croatia Eco-Label. MIA/Vamil pozitivna lista. Poland Eco-Label. RINA Green Plus. Swedish Standard SS 15 54 34. USDA Bio Preferred. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Drum codes: C, F, T, KA	ISO 15380/HEES. ASTM D8029. Approvals: Airo by TIGIEFFE s.r.l. Fincantieri S.p.A. Macor Marine. Sequani Meccanica. Terex Demag. Tre Emme.

Footnote: *30 is not classified under ISO VG

PANOLIN	ISO VG	Properties/applications	Performance grade
POLAR SYNTH 35684	*30	Fully synthetic zinc-free environment-considerate hydraulic fluid, Specially for hydraulic systems at very low temperatures. Excellent cold start properties, tested at – 25 °C in refrigeration chamber. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	Vickers V104 C.
HYDROSAFE I 35700	46	Fire-resistant zinc-free water/ethylene glycol based hydraulic oil type HFC. Applications: wherever the fire risk of conventional hydraulic fluids endangers life and property, e.g. for hydraulic systems in mines, foundries and steelworks. Drum codes: C, F, T, KA	VDMA 24 317. Meets test requirements of the 7 th Luxemburg Report.
SYNTHSAFE 35830 35840	46 68	Fully synthetic fire retardant HFDU hydraulic fluid on organic ester basis. Applications: wherever the fire risk of conventional hydraulic fluids endangers life and property, e.g. hydraulic systems in tunnelling machinery used in mining, etc. Environment-compatibility: ISO 9439 (OECD 301 B); > 60%. Drum codes: C, F, T, KA	ISO 12922 (HFDU).
ATLANTIS 36054 36060	5 15	Synthetic readily biodegradable production line control fluid for offshore applications. Fully complies to the low ecotox profile required by the OSPAR commission in order to protect the marine environment. Applications: Line control units, Wellhead/SSSV, actuators, accumulators, tubing hangers, Xmas trees, subsea-completions Environment-compatibility: OECD 301 B > 60%. CEFAS (UK), EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Miljødirektoratet (Norway), Miljøstyrelsen (Denmark), SODM (Netherlands), RINA Green Plus. Drum codes: C, F, T, KA	Approvals: ABS Type Approval. Damcos A/S (Emerson Process Management).
ATLANTIS 36062 36065	22 N 32	Fully synthetic zinc-free ECL for hydraulic systems. Based on saturated ester. For hydraulic systems in offshore and marine applications. Environment-compatibility: OECD 301 B > 60%. CEFAS (UK), EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Miljødirektoratet (Norway), SODM (Netherlands), RINA Green Plus. Drum codes: C, F, T, KA	Approvals: ABS Type Approval. Damcos A/S (Emerson Process Management).

Footnote: *30 is not classified under ISO VG

PANOLIN	ISO VG	Properties/applications	Performance grade
ORCON® HYD			
37040	15	Fully synthetic zinc-free NSF/H1 lubricant for the food, animal feed and pharma industries.	*DIN 51 517-3/CLP, *DIN 51 524-2/HLP. *DIN 51 524-3/HVLP.
37070	22	Applications: Hydraulics systems, compressors and drives in machinery directly in contact with foods and pharmaceutica.	Approvals: Arburg. Engel. M.C. Automations s.r.l. Rexroth (Bosch Group) RD 90 220.
37100	32		
37130	46		
37160	68		
37190	100		
37220	150	Drum codes: C, F, T, KA, 5L	
ORCON® HYD SGM			
37266	46	Fully synthetic zinc-free H1 high-performance hydraulic fluid for the food, animal feed and pharmaceutical industries.	*DIN 51 517-3/CLP, *DIN 51 524-2/HLP. *DIN 51 524-3/HVLP.
37268	68	Specific application: injection moulding machine hydraulics.	Approvals: Arburg. Engel.
		Drum codes: C, F, T, KA	
ORCON® SYNTH E			
37316	46	Fully synthetic zinc-free H1 high-performance hydraulic fluid for the food, animal feed and pharmaceutical industries. Applications: wherever there is a need for biodegradable hydraulic fluids from naturally regenerative resources (European Eco Label EEL) or NSF H1 registered hydraulic fluids, e.g. in combine harvesters, etc. Environment-compatibility: OECD 301 B > 60%. EN 16 807. EU Ecolabel. Croatia Eco-Label.	ISO 15 380/HEES. ASTM D 8029. Approval: Health Canada.
		Drum codes: C, F, T, KA, 5L	

Footnote:

* Standard for mineral oil.
All products listed on this page are NSF category H1 registered and Halal and Kosher certified

PANOLIN	ISO VG	Properties/applications	Approvals
H VP 8612 38055		Paraffin-based high-purity plug oil. Application: for the glass manufacturing industry. Drum codes: C, F, T, KA	
ORCON® VITRA 38155 38160	150 220	Food grade high-purity NSF/H1 plug oil. Application: for the glass manufacturing industry. Drum codes: C, F, T, KA	NSF cat. H1 reg. Halal certificate. Kosher certificate.
HYDROFLUSH 32 39710		Fully synthetic, environment-considerate zinc-free flushing oil. Applications: for flushing when replacing conventional hydraulic/ industrial oils with PANOLIN HLP SYNTH. Environment-compatibility: OECD 301 B > 60%. Note: for detailed instructions on oil replacement, please see: PANOLIN oil change guidelines. Never use as hydraulic fluid! Drum codes: C, F, T, KA	
ANTI-QR 39925		Hydraulic fluid additive, which effectively suppresses squealing and stick-slip in hydraulic aggregate components such as cylinders on earthmoving machinery. Improves lamella friction behaviour in wetbrakes. Greatly reduces stick-slip effects. Applications: both for mineral and synthetic hydraulic fluids. Dosing: 1%. Note: for detailed information on multi-plate brake applications, please refer to the product sheet. Drum code: 1L	
AVEC 39928		Biodegradable special additive for PANOLIN HLP SYNTH. Reduces any foaming in the hydraulic tank. Effectively suppresses creaking noises and rattling and stick-slip effects in hydraulic cylinders. In no way detracts from the biodegradability of PANOLIN HLP SYNTH. Dosing: 2%. Drum code: 1L	

PANOLIN	ISO VG	Properties/applications	Performance grade
MECANO			
40135	32	Mineral oil based industrial gear and slideway oil. Applications: for heavy-duty industrial gears, slideways, spindles hydraulics systems, machine tools with combined lubrication of hydraulics and slideways. Drum codes: C, F, T, KA, 5L: 40145, 40160	DIN 51 502/CG-LP, 51 517-3/CLP, 51 524-2/HLP. ISO 6743/6 CC, 6743/13 G. Approval: Terex Demag.
40140	46		
40145	68		
40150	100		
40155	150		
40160	220		
40165	320		
40170	460		
40175	680		
SLIDEWAY			
41035	32	Mineral oil based slideway oil. Applications: for combined slideway/hydraulic systems, horizontal and vertical slideways and guideways in machine tools, injection moulding machines, grinding machines, plastics presses, etc. Drum codes: C, F, T, KA, 5L: 41045, 41060	DIN 51 502/CG-LP, 51 517-3 CLP, 51 524-2/HLP.
41045	68		
41060	220		
TURWADA			
42030	32	Mineral oil based turbine oil. Applications: lubrication, bearing and governor oil in water, steam and gas turbines. Drum codes: C, F, T, KA	DIN 51 515/TD, 51 524-1/HL. ISO 6743-5/L-T, 6743-4/L-HL.
42060	46		
42090	68		
42120	100		
TURWADA SYNTH			
42330	32	Fully synthetic ECL for turbines/governor hydraulics. Based on saturated ester. Applications: lubrication, bearing and governor oil in water turbines. Environment-compatibility: OECD 301 B > 60%. Croatia Eco-Label. Drum codes: C, F, T, KA	Approval: Leroy-Somer
42360	46		
42390	68		
42420	100		

PANOLIN	ISO VG	Properties/applications	Performance grade
COMPRESS			
43035	32	Mineral-oil based compressor lubricant. Applications: for reciprocating, screw and centrifugal compressors. Drum codes: C, F, T, KA, 5L: 43035, 43040	DIN 51 506 VB, VBL, VC, VCL, VDL. ISO 6743/3 A D.
43040	46		
43045	68		
43050	100		
43055	150		
43060	220		
COMPRESS R			
43049	*87	Mineral oil based red-coloured compressor lubricant. Applications: for reciprocating, screw and centrifugal compressors. Drum codes: C, F, T, KA	DIN 51 506 VB, VBL, VC, VCL, VDL. ISO 6743/3 A D.
COMPRESS SYNTH			
43140	46	Fully synthetic compressor lubricant. Applications: for reciprocating, screw and centrifugal compressors. Service life 4 to 6 times longer than mineral oils. Drum codes: C, F, T, KA	**DIN 51 506 VB, VBL, VC, VCL, VDL. ISO 6743/3 A D.
43145	68		
43150	100		
ORCON® COMP LV			
43714	32	Fully synthetic compressor lubricant with very low evaporation loss specially developed for the food, pharmaceuticals and animal feed industries. Application: piston, screw, rotary and vacuum compressors. Drum codes: C, F, T, KA, 5L	**DIN 51 506 VB, VBL, VC, VCL, VDL. Approvals: NSF cat. H1 reg. Halal certificate. Kosher certificate.
43716	46		
43718	68		
43720	100		
43722	150		

Footnote: *87 is not classified under ISO VG
**norm for mineral oil

PANOLIN	ISO VG	Properties/applications	Performance grade
ARCTIC 44040 44045	46 68	Mineral-oil based refrigeration compressor oil. Applications: for refrigeration compressors using ammonia or halogenized hydrocarbon refrigerant. Drum codes: C, F, T, KA	DIN 51 503 KA. ISO 6743/3 B D.
ORCON® ARCTIC 44218 44224	68 220	Fully synthetic H1 refrigeration compressor oil for the food, animal feed and pharmaceutical industries. Application: refrigeration compressors using R12, R22 or R114 refrigerant. Drum codes: C, F, T, KA	DIN 51 503 KA + KC. ISO 6743/3 B D. Approvals: NSF cat. H1 reg. Burckhardt Compression AG. Halal certificate. Kosher certificate.
ARCTIC BIOSYNTH 44235 44245 44250	32 68 100	Fully synthetic ECL for refrigeration compressors. Applications: refrigeration compressors using R 134a refrigerant (FCHC-free). Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	DIN 51 503-R134a.
ARCTIC SPECIAL 44338 44350	*40 100	Fully synthetic refrigeration compressor oil on polyalkylene glycol-basis. Applications: refrigeration compressors using R 134a refrigerant (FCHC-free). Drum codes: C, F, T, KA	DIN 51 503-R134a.

Footnote: *40 is not classified under ISO VG

PANOLIN	ISO VG	Properties/applications	Performance grade
VACPUMP-OIL 46 45140		Mineral-oil based vacuum pump oil. Applications: Alfa Laval milking machines. Drum codes: C, F, T, KA	DIN 51 506 VB, VBL.
VACPUMP-OIL 125 45153		Mineral-oil based vacuum pump oil. Applications: high-vacuum plants and diffusion pumps. Drum codes: C, F, T, KA	DIN 51 506 VB, VC.
ORCON VACPUMP 45214 45216 45218 45220	32 46 68 100	Fully synthetic H1 vacuum pump oil with very low evaporation loss for the food, pharmaceutical and animal feed industries. Applications: vacuum pumps; piston, screw and rotary compressors Drum codes: C, F, T, KA	Approvals: NSF cat. H1 reg. Halal certificate. Kosher certificate.
MT OIL 46030 46035 46055	22 32 150	Mineral-oil based heat transfer oil. Applications: with nitrogen blanketing, this oil is suitable for feed temperatures up to 320 °C. Drum codes: C, F, T, KA	DIN 51 522 Q. ISO 6743-12/L-Q.
MT SYNTH 250 LL 46130		Synthetic inhibited heat transfer oil. Applications: with nitrogen blanketing, this oil is suitable for feed temperatures up to 320 °C. 3 to 5 times longer service life than mineral oil based products. Drum codes: C, F, T, KA	DIN 51 522 Q. ISO 6743-12/L-Q.
MT SYNTH SH 46150		Synthetic inhibited heat transfer oil. Applications: with nitrogen blanketing, this oil is suitable for feed temperatures up to 350 °C. 3 to 5 times longer service life than mineral oil based products. Drum codes: F, T	DIN 51 522/Q. ISO 6743-12 L-Q.
ORCON® TEMP 32 46414		Synthetic NSF/H1 heat transfer oil for the pharmaceutical, food and animal feed industries. Applications: with nitrogen blanketing, this oil is suitable for feed temperatures up to 330 °C. Drum codes: C, F, T, KA	Approvals: NSF cat. H1 reg. Halal certificate. Kosher certificate.

PANOLIN	*Visc.	Properties/applications	Performance grade
TRAFO C1 47100	9.9	Uninhibited naphthene-based insulating oil. Applications: in transformers, rectifiers and switchgear. Drum codes: C, F, T, KA	IEC 60296 (3).
TRAFO C2 47130	9.1	Highly refined naphthene-based insulating oil. Thanks to inhibition it has an increased oxidation stability and thus ensures a longer service life. Applications: transformers, rectifiers and switches. Drum codes: C, F, T, KA	IEC-BS 148/1972.
TRAFOSYNTH 2 47230	13.5	Inhibited, highly refined naphthenic based insulating oil. It has a higher flame and flash point than conventional mineral oil based transformer oils, which reduces the risk of fire. Applications: in transformers, rectifiers and switchgear. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA	
eCOOL HP 47410	9.6	Fully synthetic, readily biodegradable heat transfer fluid. Excellent high-temperature and cold resistance. The high dielectric strength allows direct contact with live components. Applications: aggregates, electrical plugs, rectifiers, switches, cooled charging cables, batteries. Environment-compatibility: OECD 301 B > 60%. Note: PANOLIN eCOOL HP can absorb up to 1 000 ppm of water without changing the dielectric strength. Drum codes: F, KA	

General note

Since dielectric strength depends on humidity rather than on the product insulation quality, the breakdown voltage cannot be guaranteed.

Footnote:

*viscosity at 40 °C

PANOLIN	ISO VG	Properties/applications
CONTACT		
48040	46	Mineral oil based lubricant for pneumatic tools. Applications: industrial pneumatic tools and rams, line oilers in demolition/drilling hammers. CONTACT 800 is mainly used for lubricating gear and chain drives. Drum codes: C, F, T, KA
48050	100	
48060	220	
48077	*800	
CONTACT SYNTH 22		
48230		Fully synthetic lubricant for pneumatic tools. Binds condensate water (prevents icing) for excellent compatibility with winter conditions. Applications: industrial pneumatic tools, line oilers in demolition drilling hammers and rams. Important: Do not mix with mineral oil – flush system before use. May attack acrylic sightglasses. Drum codes: C, F, T, KA, 5L
SICURA ZX		
49080	1000	High-viscosity steam cylinder oil. Applications: cylinder lubrication for superheated or wet steam. Drum codes: C, F, T, KA
49085	1500	
49088	*1800	
49094	*2400	

Footnote: *800, 1800 and 2400 are not classified under ISO VG

PANOLIN	ISO VG	Properties/applications	Approval
WHITE-OIL H1 50125 50145	15 68	Colourless, tasteless and odourless white oil for the food, animal feed and pharmaceutical industries. Application: loss lubrication on machines that can come into direct contact with food. Drum codes: C, F, T, KA	NSF cat. H1 reg.
TEXTIL E 51045	68	Mineral-oil based textile machine lubricant with a special additive enabling it to be washed out easily. Application: in textile machines where removability is required. Drum codes: C, F, T, KA	
TEXTIL VE 51115 51125	7 15	Colourless white-oil based textile machine lubricant with a special additive enabling it to be washed out easily. Application: in textile machines where removability and colourlessness are required. Drum codes: C, F, T, KA	
SILICONE OIL 200 52058		Special lubricant based on limpid polydimethyl siloxanes. Applications: forming oil, water-repellent and parting or sliding agent. Drum codes: C, F, T, KA, 1L	
PENLUBE 53050		Universal lubricant and penetrating oil with good rust-loosening-properties. Also available as spray 59200. Drum codes: C, F, T, KA, 5L	

PANOLIN	ISO VG	Properties/applications	Approvals
CHAINLUBE H 54010		Mineral-oil based chain lubricant for chainsaws. For all-season use. Drum codes: C, F, T, KA, 5L	
CHAINLUBE B 54028 54030 54034	60 80 120	Fully synthetic high performance ECL for chainsaws. CHAINLUBE B 60 Winter use CHAINLUBE B 80 Summer and winter use CHAINLUBE B 120 Mainly for summer use, harvesters, piecework. Environment-compatibility: OECD 301 B > 60%. Drum codes: C, F, T, KA, 5L	
CHAINLUBE SYNTH 54150 54160	100 220	Fully synthetic high performance chain lubricant. Applications: wire ropes, chain conveyors, guideways, escalators. Drum codes: C, F, T, KA, 5L	
CHAINLUBE SYNTH HTO 54265	320	High-viscosity fully synthetic heat-resistant chain oil. Contains no solid lubricants. Applications: wire ropes, chain conveyors (particularly at high temperatures), dryers, shrinkage tunnels. Drum codes: C, F, T, KA	
CHAINLUBE MAB 96271		Environmentally friendly chain lubricant based on vegetable base oils. Application: Saw chains on chainsaws and powered pruners (petrol or electrical). Mainly summer use. Drum codes: C, F, T, KA	
TIMBERCUT 100 54320		Mineral oil based gang saw oil. Applications: for gang saws, presses, open sleeve bearings, king-pins and swivel joints, rack-and-pinion gears, slideways and pillar guides. Drum codes: C, F, T, KA	
ORCON® CHAIN 54810 54825 54845 54850	5 15 68 100	Fully synthetic NSF/H1 chain lubricant for the food, animal feed and pharmaceutical industries. Applications: wire ropes, chain conveyors, guideways. ORCON® CHAIN 5 and 15 are ideal for low temperature applications such as in cold storage depots and shock freezers. Drum codes: C, F, T, KA, 5L: 54825, 54850	NSF cat. H1 reg. Halal certificate. Kosher certificate.
BIOTRACK E 54918 54926 54930	68 320 700	Environment-considerate oil for lost-oil lubrication systems, based on renewable ester. Good emergency running properties. Applications: flanged wheels, track switches and gear drive chains, hydraulic demolition hammer picks and chisels, wire ropes and cables. Environment-compatibility: OECD 301 B > 60%. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Drum codes: C, F, T, KA	Gürdesan. Macor Marine.

FORM AOT 10
55060

Universal forming oil, VOC-free, ready-to-use.
Application: unpainted wooden formwork, lacquered wooden formwork, plastic formwork, steel formwork, core formwork, exposed concrete, prefabricated elements and mixer protection

Drum codes: C, F, T, KA

FORM ELEMENT 27
55063

Extremely thin, ready-to-use concrete release agent.
Application: unpainted wooden formwork, lacquered wooden form work, plastic shuttering, steel shuttering, core shuttering, exposed concrete, prefabricated elements, mixer protection and industrial production.

Drum codes: C, F, KA

SAMURAI FORM
55070

Universal forming oil, VOC-free, ready-to-use.
Applications: unpainted wooden formwork, lacquered wooden formwork, plastic shuttering, steel shuttering, core shuttering, exposed concrete, prefabricated elements, mixer protection.

Drum codes: C, F, KA

FORM SILENT
55090

Application: unpainted wooden formwork, lacquered wooden formwork, plastic formwork, steel formwork, core formwork, exposed concrete, prefabricated elements, and mixer protection.
Environment-compatibility: OECD 301 B > 60%.

Drum codes: C, F, T, KA

SAMURAI BIOFORM
55290

VOC-tax-free, ready-to-use, environmentally friendly universal release agent for all types of separation. Application: unpainted wooden formwork, lacquered wooden formwork, plastic shuttering, steel shuttering, core shuttering, exposed concrete, prefabricated elements, mixer protection, truck bridges, built-in machines, pavers, shovels, wheelbarrows, equipment, also «whisper surfacing», steel bandages and tyred wheel rollers (manual).

Environment-compatibility: OECD 301 B > 60%.

Corresponds to 1st priority Eco-BKP. Very well suited for Minergie (A-/P) Eco.

Drum codes: C, F, KA

SAMURAI BIOFORM ROAD
55293

VOC tax free, ready-to-use, environmentally-friendly release agent.

Applications: Truck bridges, built-in machines, pavers, shovels, wheelbarrows, implements, also «whisper surfacing», steel bandages and tyred wheel rollers (manual).

Environment-compatibility: OECD 301 B > 60%.

Drum codes: C, F, KA

FORM C
55400

Water-miscible environment-considerate bitumen separating concentrate. Applications: tyred wheel rollers (wetted).

Environment-compatibility: all ingredients are rapidly biodegradable as per OECD criteria.

Drum codes: C, F, KA

TEF OIL 17
55870

Fully synthetic universal lubricant/mould release agent with PTFE additive, for trade and industry.

Applications: on conveyors, for belts and lost oil lubrication systems.

Drum codes: C, F, T, KA

PANOLIN	Properties/applications	Thickness of film
ARC-FLUID DW 56000	Water displacement fluid containing solvents. On workpiece immersion water is immediately removed from the metal surface and collects on the bottom of the immersion tank Drum codes: C, F, KA	
ARC-FLUID L 10 56055	Rust inhibitor containing solvents; forms a dry, nonadhesive, elastic and transparent film. Application: raw or machined ferrous and non-ferrous metals, e.g. tools, saws, containers, wire, springs, dies, bearings. Drum codes: C, F, T, KA	1.0 µm
ARC-FLUID TK 56100	Temporary corrosion protection concentrate based on highly refined mineral oils with special emulsifiers. Application: for prestressing elements in bridge construction. Bare metal parts. Drum codes: C, F, KA	1.5 µm
ARC-FLUID W 25 56120	VOC-free, environment-considerate wax and water based rust inhibitor. Forms a dry, non-adhesive, elastic and transparent film after water evaporation. Application: for bare metal wire, springs, moulds, sheeting, etc. as well as workpieces, tools and equipment. Note: requires pre-homogenization. Drum codes: C, F, KA	2.5 µm
ARC-FLUID XR 230 56410	Long-term rust inhibitor for metal surfaces. Forms a dark elastic film exceptionally resistant to salt water and salt spray. Application: for vehicles and agricultural equipment. Drum codes: C, F, T, KA	23 µm

INTRACLEAN N
57000

Fast-drying cleaning agent, ready-to-use, for small parts, contains solvents.

Drum codes: C, F, T, KA

INTRACLEAN ND
57020

Odour-optimized cleaning agent, ready-to-use, for small parts, contains solvents.

Drum codes: C, F, T, KA

INTRACLEAN VL
57060

Practically odourless, non-drying cleaning agent for small parts. VOC and solvent free. Also suitable for ultrasonic cleaning systems thanks to high flash-point (100 °C).

Drum codes: C, F, T, KA

INTRACLEAN BT
57080

Special cleaning agent containing solvents for removing bitumen and cement from construction machinery and equipment.

Drum codes: C, F, T, KA

NITRO 201
57110

Universal nitrothinner.

Drum codes: F, T, KA

WASCHBENZIN
57160

Benzol-free gasoline for industrial cleaning purposes.

Drum codes: F, T, KA

PETROL LP
57180

Practically odourless petroleum spirit.

Drum codes: F, T, KA

ACETON
57190

Solvent.
Applications: cleansing.

Drum codes: F, T, KA

MYSTIC 20
57200

Water-based universal cleaner, nontoxic, VOC and solvent-free. Applications: for engines, chassis, machinery, wheels, floors and tarpaulins.

Drum codes: F, KA, 5L

PANOLIN	Properties/applications	Temperature range
SPECIAL GREASE SPRAY 59000	Fully synthetic, universal lubricating grease with excellent adhesion properties and extreme water resistance. Applications: sleeve, roller and articulated bearings, screw drives, universal joints, guide rollers, etc. Also available as bulk grease 74050.	30 °C to 120 °C
MULTILUBE SPRAY 59020	Colourless universal lubricant spray with excellent penetration and adhesion properties. Applications: machinery and precision-mechanics, joints and couplings, door locks and hinges, etc.	-30 °C to 180 °C
CHAINLUBE SPRAY 59040	Transparent rapidly biodegradable chain lubricant spray with excellent penetration and adhesion properties. Applications: chain link bearings, roller and ball-bearings, gear and worm drives, all types of joints and couplings, etc. Environment-compatibility: OECD 301 B > 60%.	-35 °C to 200 °C
ZMO GREASE SPRAY 59060	Black viscous-adhesive bituminous lubricating grease with excellent emergency running properties. Applications: Chain conveyors, open drives, gearwheels, racks and swivelling cranes.	-30 °C to 150 °C, Emergency running properties up to 400 °C
PENLUBE SPRAY 59200	Universal lubricating oil with good rust-loosening and penetration properties. Also available as bulk liquid 53050.	
BRAKE CLEANER SPRAY 59300	For cleaning and degreasing metals, glass and ceramic, particularly for brake parts and discs.	
BRAKE CLEANER 360 SPRAY 59305	Highly effective brake cleaner. Cleans brake discs, brake pads, brake blocks, quick couplings, clutch and assembly parts as well as glass, ceramics and metals. Thanks to the special valve, it can be sprayed in any position - even upside down.	

PANOLIN	Properties/applications	Temperature range
SILICONE H1 SPRAY 59410	Antistatic universal dust-repellent preservation agent containing silicon. NSF-approved for use in the food, animal feed and pharmaceutical industries. Applications: for the care and protection of plastic and rubber parts. Drum code: SD 500	up to 250 °C
FORM H1 SPRAY 59700	Silicon-free lubricant and parting agent. NSF-approved for use in the food, animal feed and pharmaceutical industries. Tasteless and compatible with beer foam. Drum code: SD 500	-35 °C to 220 °C
TEF OIL H1 SPRAY 59730	Universal light-coloured PTFE oil spray. NSF-approved for use in the food, animal feed and pharmaceutical industries. Applications: for lubricating guiderails, drives and sleeves. Drum code: SD 500	up to 250 °C
TEF GREASE H1 SPRAY 59750	White PTFE aluminium-complex soap based lubricating grease. NSF-approved for use in the food, animal feed and pharmaceutical industries. Applications: general lubrication. Drum code: SD 500	-10 °C to 120 °C (Briefly up to 180 °C)
CL 60 SPRAY 59790	Unique biodegradable lubricant spray for universal applications, with food grade properties. Fully synthetic, on saturated ester basis from naturally regenerative resources. NSF-registered for use in the food, animal feed and pharmaceutical industries as well as for domestic kitchen use. Applications: for household, garden, trade and industry. Environment-compatibility: OECD 301 B > 60%. Drum code: SD 100	

Footnote: All the products listed on this page are registered to NSF category H1 and Kosher certified (except CL 60 SPRAY: only Kosher certified).

PANOLIN	Properties/applications	Pr. No.
INTRA LOS 3 INTRA LOS 5	Synthetic Lapping oils with excellent precipitating properties for use with ultra-fine lapping powder. Drum codes: C, F, T, KA	60542 60544
INTRA PAC 1.5 INTRA PAC 2	*Very thin Punching oil, exclusively for use with sheet aluminium up to 1.5 mm thick.	60599 60600
INTRA PAC 3	*Thin punching oil, exclusively for use with sheet aluminium. Drum codes: C, F, T, KA	60602
INTRA PFC 68	Mineral oil based punching oil. Drum codes: C, F, T, KA	61018
INTRA PRC 2	*Very thin high-additive punching oil for thin miniature components.	61300
INTRA PRC 68	High-additive punching oil for stainless steel. Drum codes: C, F, T, KA	61318
INTRA PXC 100	High-performance punching oil for very demanding applications, such as machining surgical steel. Drum codes: C, F, T, KA	61520

General note

These machining oils are chlorine-free, light-coloured and VOC-free, except as *marked.
VOC = Volatile Organic Carbon.

The **first** letter stands for the application, e.g. INTRA **L**OS 3 = **L**apping oil

The **second** letter stands for the material or operation stage; e.g.

INTRA **L**OS 3 = **NO** specific material allocation

A – **A**luminium

F – Normal machining; **F**errous metals, grey or malleable cast iron, low-alloy machining steel, structural steel, case hardening and heat-treatable steels

O – **NO** specific material allocation

R – Heavy machining: Stainless steel, high-alloy steel, chrome-nickel steel (German: **R**ostfreier Stahl)

X – **EX**treme machining: Manganese, nickel, titanium, manganese-silicon steel, silicon steel, chrome-molybdenum steels.

The **third** letter is part of our internal production code

The **number** stands for product viscosity, e.g. INTRA PFC **68** = ISO class VG **68**

INTRA TRS **700** = viscosity at 40 °C (no ISO-class)

Footnote:

*VOC taxed

PANOLIN	Properties/applications	Pr. No.
INTRA TFC 22	Deep-draw oil. (German: Tiefzugöl). Drum codes: C, F, T, KA	62112
INTRA TRS 700	Synthetic high-viscosity deep-draw oil. Drum codes: C, F, T, KA	62431
INTRA TXC 320	High-viscosity deep-draw oil. Drum codes: C, F, T, KA	62526
INTRA UAC 4	Thin forming oil. (German: Umformöl). Drum codes: C, F, T, KA	62703
INTRA UFS 20 INTRA UFS 25	Synthetic forming oils, ideal for minimal-volume lubrication. Drum codes: C, F, T, KA	63211 63213

PANOLIN	Properties/applications	Pr. No.
INTRA ELECTA E 3	Low-viscosity synthetic dielectric oil for EDM machines, suitable both for stamp and sink erosion. Drum codes: C, F, T, KA	63402
INTRA ELECTA PLUS E 3	Translucent green low-viscosity synthetic dielectric oil for EDM machines, suitable both for stamp and sink erosion. Drum codes: C, F, T, KA	63412
INTRA BRIA GH 5 INTRA BRIA GH 7 INTRA BRIA GH 22	Universal pale-hued grinding and honing oil based on special distillates. Applications: for cylindrical and swing grinding carbide metals, high-speed steel (HSS) and other steels. Drum codes: C, F, T, KA	63414 63416 63422
INTRA BRIA SYNTH G 3 INTRA BRIA SYNTH G 4	Low-viscosity pale-hued synthetic grinding oil. Applications: optimally suitable for high-speed grinding, external and internal grinding, deep grinding, swing and gear tooth grinding. Drum codes: C, F, T, KA	63432 63433
INTRA AURAN Z 10 INTRA AURAN Z 22 INTRA AURAN Z 32	Light coloured mineral oil based machining oil. (German: Z erspanungsöl). Ideal for non-ferrous metals. Drum codes: C, F, T, KA	63758 63762 63764
INTRA OMNIA Z 10 INTRA OMNIA Z 22	Light coloured machining oil on special distillate basis. Ideal for batch production on all automats. Drum codes: C, F, T, KA	63928 63932
INTRA ZFS 40	Synthetic rapidly biodegradable cutting oil ideal for machining galvanized drinking-water piping, etc. Drum codes: C, F, T, KA	64215
INTRA COSMO Z 10 INTRA COSMO Z 22	Pale transparent high-performance machining oil. Ideal for difficult machining, particularly of tempered stainless steel. Drum codes: C, F, T, KA	64258 64262
INTRA ENDO Z 7 INTRA ENDO Z 10 INTRA ENDO Z 22	Pale transparent high-performance machining oil. Ideal for medical technology applications thanks to extremely low sulphur content. Drum codes: C, F, T, KA	64606 64608 64612

PANOLIN	Properties/applications	Viscosity at 40 °C
HARDLUBE SPECIAL 64810	Blank hardening oil for small to medium size parts. Applications: mainly for continuous throughput ovens. Drum codes: C, F, T, KA	31.5
HARDLUBE SC 64830	Partly synthetic blank hardening oil for small to medium size parts. Much longer service life and less oil contamination than mineral oil based products. Applications: mainly for continuous throughput ovens. Drum codes: C, F, T, KA	20.3

PANOLIN	Properties/applications	Mineral oil content
INTRACOOOL COMPA C-50 65320	Universal coolant, mineral oil based and water-miscible. Properties: skin-friendly, free of nitrites, amines, chlorine and borine. Applications: for conventional and CNC machine-tools Materials: low and high alloy steels, cast iron, aluminium, nonferrous metals and plastics. Drum codes: C, F, KA	50%
INTRACOOOL NEXUM C-45 65515	Water-miscible universal cutting fluid, mineral oil based. Free of formaldehyde separators and nitrosamine forming amines. Skin-friendly, free of chlorine, nitrites and boron. Application: conventional and CNC machine tools, medium to heavy machining. Materials: low and high alloy steels, cast iron, aluminium, NF metals, and plastics. Drum codes: C, F, KA	45%
INTRACOOOL OPUS P-30 65750	Semi-synthetic coolant that forms an emulsion when mixed with water. Free of formaldehyde releasers and nitrosamine-forming amines. Skin-friendly, free of chlorine, nitrite and boron. Applications: conventional and CNC machine tools, medium to heavy machining suitable for all grinding applications. Materials: aluminium, low and high alloy steels, cast iron, NF metals, and plastics. Drum codes: C, F, KA	30%
INTRACOOOL XENA S-04 65800	Fully synthetic water-miscible high performance coolant. Properties: free of mineral oil, nitrite and chlorine, skin-friendly. Applications: for all machining work (except high-pressure work). Materials: low and high-alloy steels, cast iron, aluminium and nonferrous metals. Drum codes: C, F, KA, 5L	

INTRACOOOL SHINE G-10
67062

Grinding water concentrate. Application: suitable for carbide grinding, for grinding machines with settling tank.

Drum codes: C, F, KA

INTRACOOOL SHINE G-21
67071

Grinding water concentrate. Application: suitable for carbide grinding, for grinding machines with band filter.

Drum codes: C, F, KA

PREWAT S-04
68220

Fully synthetic nitrite-free red coloured multifunctional press water additive. Applications: in aqueous hydraulic systems, also as grinding water, and in some heating system pumps with nonferrous metal components.

Drum codes: C, F, KA

PREWAT CLEAR
68240

Fully synthetic press-water additive, water miscible to form a clear solution. Applications: as press water additive in aqueous hydraulic systems, as corrosion inhibitor and conservation agent in cooling circuit systems.

Drum codes: C, F, KA

PROTECT ALU
69032

Additive for water-miscible cooling lubricants. Increases aluminium-machining performance. Dosing: 0.2 - 1 % per 100 litres of emulsion

Drum codes: KA, 5L, 1L

PROTECT CU
69040

Additive for coolants and machining oils. Dosing: 0.05 – 0.1 %

Drum codes: 5L, 1L

ANTI KALK
69061

Coolant additive for better compatibility with hard water. Dosing: 0.2%

Drum codes: KA, 1L

SR 3
69211

System cleaner for water-miscible cutting fluids. Dosing: 0.2 – 1 % per 100 litres of emulsion

Drum codes: F, T, KA, 1L

ANTI BAC MF
69251

Preservative for water-miscible cutting fluids. Highly effective against bacteria, fungal and yeast attack.
Mild odour. Contains no heavy metals, phenols, halogens or complexing agents.
Dosing: 0.1 – 0.2%

Drum codes: F, KA, 1L

ANTI BAC OF
69252

Preservative for water-miscible cutting fluids. Highly effective against bacteria, fungal and yeast attack. Free of formaldehyde. Contains no heavy metals, phenols, AOX (adsorbable organically bound halogens) or complexing agents.
Dosing: 0.1 – 0.4%

Drum codes: F, KA, 1L

ANTIFOAM 46
69430

Antifoaming additive for hydraulic, compressor and gear lubricants.
Dosing: 0.02%

Drum codes: C, F, T, KA, 1L, 0.5L, 0.05L

ANTIFOAM COOLANT
69460

Antifoaming concentrate for water-miscible cutting fluids.
Application: for PANOLIN INTRACOOOL cutting fluids.
Dosing: 0.02 – 0.1 %

Drum codes: C, F, T, KA, 1L, 0.5L, 0.05L

**ANTIFOAM COOLANT
SBU**
69466

Ready-to-use defoamer.
Application: for PANOLIN INTRACOOOL cooling lubricants.
Dosage: according to specification of the dosing system used.
Also for manual use. Dosing: 0.1 %

Drum code: KA, 1L

PANOLIN	Properties/applications	Temperature range
EP GREASE 0	Multipurpose yellow grease with good adhesion, lithium-calcium soap based, high oxidation stability. Applications: for central lubricating systems and gear drives requiring grease lubrication. Drum codes: F, T, K, K15, K5, D1	-30 °C to 120 °C
EP GREASE 1 70440	Multipurpose yellow-brown grease, lithium soap based, with high oxidation stability. Applications: universal grease for lubricating machinery and apparatus wherever no specific grease is prescribed. Drum codes: F, T, K, K15, K5, D1	-30 °C to 120 °C
EP GREASE 2 70450	Universal beige coloured multipurpose grease. Based on lithium soap. Applications: for sleeve and roller bearings, machine and chassis lubrication. Drum codes: F, T, K, K15, K5, D1, P 400	-30 °C to 120 °C Approval: Terex Demag.
LT GREASE 000 70610	Partly synthetic, green high-performance free-flow grease, lithium soap based, with excellent low-temperature characteristics. Applications: central lubrication systems of trucks and industrial machinery, gearboxes requiring free-flow grease.	-50 °C to 100 °C
LT GREASE 00 70620	Drum codes: F, T, K, K15, K5, D1	-50 °C to 110 °C
MOLYGREASE 23 70950	Anthracite coloured high-pressure lubricating grease, lithium soap based, containing graphite and MoS ₂ (molybdenum disulphide) solid lubricants. Applications: for articulated joints, sleeve bearings and other lubricating points requiring emergency running properties (e.g. for vibrating and shock loads). NLGI-class: 2. Drum codes: F, T, K, K15, K5, D1, P 400	-30 °C to 120 °C
SHUTTLE MOLYGREASE 23 70955	In special screw-on cartridge to fit Lube-Shuttle® grease presses. Drum code: PSH 400	
HT GREASE 2 71050	Multipurpose light-brown high-temperature lubricating grease, lithium complex soap based. Applications: for lubricating points at extremely high temperatures, such as Telma brakes, drying tunnel bearings, bitumen laying machines and wheel bearings. Drum codes: F, T, K, K15, K5, D1, P 400	-20 °C to 150 °C
SHUTTLE HT GREASE 2 71075	In special screw-on cartridge to fit Lube-Shuttle® grease presses. Drum code: PSH 400	

PANOLIN	Properties/applications	Temperature range
HT GREASE 3 71060	<p>Multipurpose yellow-brown high-temperature lubricating grease, lithium complex soap based.</p> <p>Applications: for lubricating points at extremely high temperatures, such as Telma brakes, drying tunnel bearings, bitumen laying machines and wheel bearings.</p> <p>Drum codes: F, T, K, K15, K5, D1, P 400</p>	-15 °C to 150 °C
BENTO GREASE 2 71150	<p>Black high-temperature lubricating grease, bentonite based, containing 3% solid lubricants. No drip or melt point.</p> <p>Application: for lubricating bearings running at high temperatures, as in: glass production plants, shrink tunnels, etc.</p> <p>Drum codes: F, T, K, K15, K5, D1</p>	up to 230 °C
GRAPHITGREASE 2 72050	<p>Water-resistant black grease. Based on calcium-soap with high graphite content.</p> <p>Applications: lubrication points, joints and guideways exposed to damp and/or dusty conditions.</p> <p>Drum codes: F, T, K, K15, K5, D1</p>	-30 °C to 60 °C
BIOGREASE EP 1 72866	<p>Fully synthetic, yellow-brown environment-friendly universal grease based on lithium and synthetic esters, for exposed applications. Features EP additives for excellent load bearing capability.</p> <p>Applications: Roller and plain bearings, conveyor and drive chains, wire ropes, hydroelectric power plants, e.g. for flood gates, etc., and maritime applications.</p> <p>Environment-compatibility: OECD 301 B > 60%. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP).</p> <p>Drum codes: F, T, K, K15, K5, D1, P 400</p>	-35 °C to 120 °C
BIOGREASE EP 2 72868	<p>Fully synthetic, yellow-brown environment-friendly universal grease based on lithium and synthetic esters, for exposed applications. Features EP additives for excellent load bearing capability.</p> <p>Applications: Roller and plain bearings, conveyor and drive chains, wire ropes, hydroelectric power plants e.g. for floodgates etc., and maritime applications.</p> <p>Environment-compatibility: OECD 301 B > 60%. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP).</p> <p>Drum codes: F, T, K, K15, K5, D1, P 400</p>	-35 °C to 120 °C
SHUTTLE BIOGREASE EP 2 72878	<p>In special screw-on cartridge to fit Lube-Shuttle® grease presses.</p> <p>Drum code: PSH 400</p>	<p>Approvals: Airo by TIGIEFFE s.r.l. Becker Marine Systems. Gürdesan. Hyundai Heavy Industries propeller cap. Macor Marine. MAN. MMG Mecklenburger Metallguss GmbH. Rolls-Royce Marine AS – Brattvaag Deck Machinery. SKF Marine. Wärtsilä.</p>

PANOLIN	Properties/applications	Temperature range
MARGREASE EP 0 72902	Fully synthetic, green environmentally friendly EP fluid grease based on lithium and synthetic esters, for automatic lubrication systems. Applications: rudders, stabilizers. Environment-compatibility: OECD 301 B > 60%. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Drum codes: F, T, K, K15, K5, D1, P 400	-35 °C to 120 °C Approvals: James Walker. Kamome Propeller. MAN. SKF Marine GmbH. Stone Marine Propulsion.
MARGREASE EP 2 72904	Fully synthetic green environment-friendly universal EP grease based on lithium/calcium and synthetic esters. For exposed applications such as maritime use, also roller and plain bearings, conveyor and drive chains, wire ropes, open gearboxes, stabilizers, hydroelectric power plants, e.g. floodgates, etc. Environment-compatibility: OECD 301 B > 60%. EPA Vessel Incidental Discharge Act (VIDA), Vessel General Permit 2013 (VGP). Drum codes: F, T, K, K15, K5, D1, P 400	-25 °C to 125 °C
SHUTTLE MARGREASE EP 2 72914	In special screw-on cartridge to fit Lube-Shuttle® grease presses. Drum code: PSH 400	
SPECIAL GREASE 2 74050	Fully synthetic yellow/greenish fluorescent universal lubricating grease specific calcium based, with outstanding adhesion properties, extremely water-resistant. Applications: for long-term lubrication of heavy-duty swivel sleeve and roller bearings in earth-moving, forestry and agricultural machinery and industrial plant. Also available as spray 59000 Drum codes: F, T, K, K15, K5, D1, P 400	-30 °C to 120 °C Briefly and with frequent re-greasing: up to 130 °C
SHUTTLE SPECIAL GREASE 2 74075	In special screw-on cartridge to fit Lube-Shuttle® grease presses. Drum code: PSH 400	
TECHNUM GREASE 2 76018	Beige coloured squeeze-stable high-adhesion heavy-duty lubricating grease on lithium complex basis, with PTFE additive. Application: for lubricating heavy-duty roller and sleeve bearings in construction machinery – also recommended for high bearing temperatures. Drum codes: F, T, K, K15, K5, D1, P 400	-25 °C to 150 °C, Briefly and with frequent re-greasing: up to 200 °C
SHUTTLE TECHNUM GREASE 2 76025	In special screw-on cartridge to fit Lube-Shuttle® grease presses. Drum code: PSH 400	
PYRA GREASE 2 77050	Fully synthetic high-temperature white lubrication grease with extremely high drop-point and optimal thermal stability. Applications: for roller and sleeve bearings operating at very high temperatures, road surfacing machines and industrial machinery Drum code: D1	-25 °C to 250 °C

PANOLIN	Properties/applications	Temperature range
VA GREASE 77990	White, highly refined NSF/H1 vaseline. Applications: for apparatus and machine seals in the food, animal feed and pharma industries, for instruments and electrical contacts. Drum codes: F, T, K, K15, K5, D1	< 50 °C
ORCON® GREASE 00 78320	White H1 semi-fluid grease, aluminium complex soap based, for the food, pharmaceuticals and animal feed industries. Applications: for central lubricating systems and gear drives requiring semi-fluid grease.	-20 °C to 110 °C
ORCON® GREASE 0 78330	Drum codes: F, T, K, K15, K5, D1	-20 °C to 120 °C
ORCON® GREASE 1 78340	White H1-Schmierfett, aluminium complex soap based, for the food, pharmaceuticals and animal feed industries. Applications: joints and rod guides, roller and sleeve bearings.	-15 °C to 110 °C
ORCON® GREASE 2 78350	Drum codes: F, T, K, K15, K5, D1, P 400	-20 °C to 120 °C
ORCON® GREASE CLEAR 2 78450	Colourless, transparent fully synthetic NSF/H1 lubricating grease for the pharmaceutical, food and animal feed industries. Tasteless and compatible with beer foam. Applications: long-term lubrication of spherical/plain bearings in bottle filling and washing, labelling and sealing plants, etc. Lubrication of refrigeration machinery and apparatus. Drum codes: F, T, K, K15, K5, D1, P 400	-50 °C to 150 °C
SHUTTLE ORCON® GREASE CLEAR 2 78475	In special screw-on cartridge to fit Lube-Shuttle® grease presses. Drum code: PSH 400	
ORCON® GREASE TEF 2 78650	White fully synthetic PTFE-H1 lubricating grease for the pharmaceutical, food and animal feed industries. Application: for articulated joints, rod guides (stuffing boxes), roller and plain bearings. Drum codes: F, T, K, K15, K5, D1, P 400	up to 200 °C
SHUTTLE ORCON® GREASE TEF 2 78675	In special screw-on cartridge to fit Lube-Shuttle® grease presses. Drum code: PSH 400	

Footnote:

All products listed on this page are NSF category H1 registered and Kosher certified. Furthermore, all products are Halal certified except PANOLIN VA GREASE and PANOLIN ORCON® GREASE CLEAR 2.

PANOLIN	Properties/applications	Temperature range
CU-HT GREASE 79390	Copper coloured separating and assembly lubricant paste, bentonite soap based, containing copper solid lubricant, with pronounced high-temperature and corrosion resistant properties. Prevents seizing and fusion of parts. Applications: Threads, sparking plugs, brake-shoe pins, exhaust pipe fastenings. Drum code: D	-20 °C to 800 °C
COMPOUND 1.5 79545	Semisynthetic black lubricating grease, high-polarity complex soap based, with high solid lubricant content. Applications: under heavy loading or at high temperatures and or wet conditions. For drilling rods, crushing plants, exposed gearwheels on travelling cranes, and semi-trailer skid plates. Drum codes: F, T, K, K15, K5, D1	-10 °C to 180 °C
EXTREME 1.5 79645	Anthracite coloured lubricating and separating paste with inorganic thickeners. Applications: Plug-in tools and wearing bushes on hydraulic and pneumatic hammers. Important: Compliance with the manufacturer's greasing plan is mandatory . Drum codes: F, T, K, K15, K5, D1, P 500	-30 °C to 100 °C
SHUTTLE EXTREME 1.5 79655	In special screw-on cartridge to fit Lube-Shuttle® grease presses. Drum code: PSH 400	

PANOLIN	SAE	Properties/applications	Performance grade
PREMIUM 00230	50	Single-grade motor oil based on mineral oil for classic cars. Contains no HD additives. Application: for automobiles dated around 1950; usually without oil filter. Drum codes: C, F, T, KA, 5L	API SB.
NOVA 00430 00460	40 50	Single-grade motor oil based on mineral oil for oldtimers. Application: for uncharged gasoline engines dated around 1950 – 1976, usually with oil filter, also motorcycles. Gebindecodes: C, F, T, KA, 5L, 1L	API SF.
BASIC 94058	20W-50	Mineral oil based four-stroke multigrade engine oil for older motorcycles. Applications: for engines with/without charging and multi-valve technology. Drum codes: C, F, T, KA, 4L, 1L	API SN. JASO MA 2.
BLEND 94065 94067	10W-40 15W-50	Semi-synthetic 4-stroke engine oil for motorcycles. Applications: for engines with/without charging and multi-valve technology. Drum codes: C, F, T, KA, 4L, 1L	API SN. JASO MA 2.
2T BLEND 94105		Semi-synthetic 2-stroke engine oil for motorcycles. Applications: for mixed and separate lubrication. Mixing ratio: as per manufacturer's specification. Drum codes: C, F, T, KA, 4L, 1L	API TC. ISO-L-EGD. JASO FD. TISI.

PANOLIN	SAE	Properties/applications	Performance grade
SYNTH 94092 94073 94075	5W-40 10W-40 15W-50	Synthetic four-stroke multigrade engine oil for motorcycles and scooters. Very good temperature and shear stability. PANOLIN SYNTH 5W-40 is optimally suited to BMW engines. Drum codes: C, F, T, KA, 4L, 1L	API SN. JASO MA 2.
SYNTH 94090	10W-30	Synthetic 4-stroke multi-grade oil for motorcycles and scooters. Very good temperature and shear stability. Ideal for Honda engines. Drum codes: C, F, T, KA, 4L, 1L	JASO MA.
RACE 94084 94085 94086	5W-50 10W-50 20W-50	Fully synthetic high-performance 4-stroke multipurpose engine oil. Extremely good temperature and shear stability. Drum codes: C, F, T, KA, 4L, 1L	API SN. JASO MA 2.
2T RACE 94010		Fully synthetic high-performance 2-stroke engine oil for high powered motorcycles. Applications: water and air-cooled 2-stroke engines with or without catalyzer. Mixing ratio: as per manufacturer's specification. Drum codes: C, F, T, KA, 4L, 1L	API TC. ISO-L-EGD. JASO FD. TISI.
TOP RACE 94098 94088	0W-20 10W-50	High-performance 4-stroke engine oil, ester based, high powered motorcycles. Extremely good temperature and shear stability. Drum codes: C, F, T, KA, 4L, 1L	API SN. JASO MA 2.
TOP RACE 94089	10W-60	High-performance 4-stroke engine oil, ester based, for high powered motorcycles. Extremely good temperature and shear stability. Drum codes: C, F, T, KA, 4L, 1L	JASO MA 2.
2T TOP RACE 94050		High-performance 2-stroke engine oil, ester based, for high powered motorcycles. Specially developed for race track use. Also for racing go-karts. Mixing ratio: as per manufacturer's specification. Drum codes: C, F, T, KA, 4L, 1L	API TC. ISO-L-EGD. JASO FD. Approval: Suter MMX 500.

PANOLIN	SAE	Properties/applications	Performance grade
GEAR BLEND 94205	10W-30	Synthetic blend manual transmission oil. Applications: mopeds, scooters, motorcycles, ATVs, quads, etc. with separate engine and transmission lubrication. Drum codes: C, F, T, KA, 4L, 1L	API GL-4.
GEAR HD SYNTH 94210	15W-50	Synthetic heavy-duty transmission fluid for motorcycles. Applications: mopeds, scooters, motorcycles, ATVs, quads, etc. with separate engine and transmission lubrication. Drum codes: C, F, T, KA, 4L, 1L	
GEAR HD SYNTH 94220	150	Synthetic special gear oil for Harley Davidson motorcycles. Application: specifically for Harley Davidson primary drives. Drum codes: C, F, T, KA, 4L	
FORK SYNTH 94255 94257 94256 94258	5W 7.5W 10W 20W	Synthetic fork and shock absorber oil. Applications: mopeds, scooters, motorcycles, ATVs, quads, etc. Drum codes: C, F, T, KA, 5L, 1L	

AIR FILTER OIL

94305

Air filter oil. Application: for foam and cotton filter elements on motorcycles, ATVs and quads.
Also available as spray: 94620

Drum code: 1L

AIR FILTER CLEANER

94505

Preparation cleaner, environment-considerate and solvent-free for foam and cotton filter elements. Water-based.
Application: for precleaning foam and cotton filter elements prior to treating with AIR FILTER OIL or AIR FILTER OIL SPRAY.

Drum code: 1L

MOTOBIKE CLEANER

94510

Biodegradable, water-based cleaner for motorcycles, mopeds, scooters, ATVs, quads, etc.

Drum codes: 1L (pump bottle), 5L (Refill)

PROTECT & CARE SPRAY

94515

Protection and preservative spray for mopeds, scooters, motorcycles, ATVs, quads, etc.
Gives lacquers, plastics and rubber a light shine.

Drum code: SD 500

HELMET CLEANER SPRAY
94525

Cleaning and protective foam for helmet shells and interior cushions. Gives a pleasant fragrance. Freshens up colours.

Drum code: SD 200

OFF ROAD CHAINLUBE SPRAY
94605

Fully synthetic chain lubricant specially for dirty off-roaders and mopeds, ATVs, quads, etc.

Drum code: SD 500

SPEED CHAINLUBE SPRAY
94611

Fully synthetic clear heavy-duty chain oil containing solid lubricant. Ideal for racing with street bikes.

Applications: for lubricating chains on mopeds, scooters, motorcycles, ATV and quads.

Drum code: SD 500

CHAIN CLEANER SPRAY
94615

Very efficient cleaning agent for drive chains. Cleans chains prior to lubrication with OFF ROAD CHAINLUBE SPRAY or SPEED CHAINLUBE SPRAY.

Drum code: SD 500

AIR FILTER OIL SPRAY
94620

Air filter spray. Application: for foam and cotton filter elements on motorcycles, ATVs and quads. Also available as oil: 94305

Drum code: SD 500

BRAKE FLUID DOT 4
94650

Synthetic high-performance brake fluid on polyethylene glycol ether basis.

Applications: in hydraulic brake and clutch systems requiring brake fluids to FMVSS 116 DOT 4 specification.

Drum codes: KA, 5L, 0.5L

FMVSS 116 DOT 4.
ISO 4925.
SAE J 1703.

BRAKE FLUID DOT 5.1
94655

Synthetic high-performance brake fluid on polyethylene glycol ether basis.

Applications: in hydraulic brake and clutch systems requiring brake fluids to FMVSS 116 DOT 5.1 specification.

Drum codes: KA, 5L, 0.5L

FMVSS 116 DOT 5.1.
ISO 4925.
SAE J 1703.

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