

Industrial EALs
BIODEGRADABLE
Oils and Lubricants

[®]
BiorA



 **LUBECO™**

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- Established in 1994
- Family-controlled company
- Leading specialized manufacturer of technical biodegradable oils and bio-lubricants
- Products distributed in over 100 countries (key markets include Germany, Austria, France, Belgium, Poland, UK, Netherlands, Australia, New Zealand, USA, and Canada)
- Exports account for 80% of total production
- In-house R&D and modern laboratory
- Certifications: ISO 9001, ISO 14001, GMP, TC-W3, ISCC
- Awarded EcoVadis medal for sustainability achievements



**Environmentally Acceptable (EAL)
& Biodegradable Lubricants**

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Total-Loss Lubricants



- Excellent lubricating properties
- Naturally greater adhesion than mineral oils
- Protected against polymerization
- Anti-corrosion and anti-wear protection
- Suitable for use all year round
- Increased overall system efficiency > positive impact on CO2 emissions
- Readily biodegradable; non-toxic
- EU Ecolabel Certificate of Environmental Excellence, KWF certificate
- Significantly lower lubricant usage



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Hydraulic Oils



- Production of HETG, HEES, HFDU, HEPR, HFC
- Superior performance and anti-wear protection
- Outstanding thermal oxidation stability
- Wide operating temperature range, very low pour point
- Neutral to seal materials and elastomers
- Readily biodegradable; non-toxic
- CO2 emissions reduction
- EU Ecolabel Certificate of Environmental Excellence



Multi-Purpose Oils (UTTO)



- Improved lubrication performance
- Excellent anti-wear protection
- Superior friction performance for transmission clutches and gear boxes
- Extra-long oil change intervals
- High thermo-oxidation stability
- Protection against rust and corrosion
- Readily biodegradable; non-toxic
- CO2 emissions reduction



Release Agents

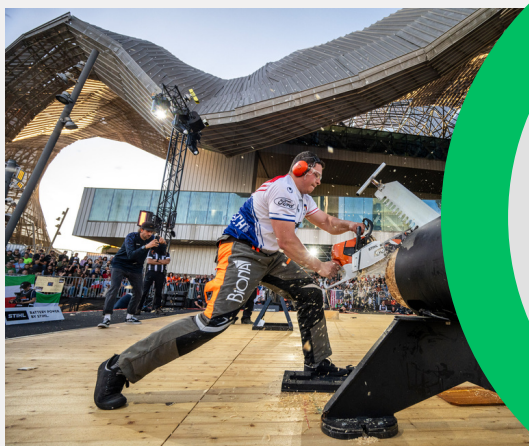
- Low-viscosity slip agents
- Universal applicability
- Create special long-lasting oil film
- Lower aerosol creation
- Readily biodegradable, environmentally considerate products
- Non-toxic; promote Workplace Health & Safety
- No change to the technical parameters of asphalt or concrete mixtures
- Cost-effective > multiple loads per application



BRSO - Blown Rapeseed Oils



- Unique production
- Manufactured by controlled polymerization
- Various ranges of viscosities
- Great lubrication performance
- High thermo-oxidation stability
- Natural viscosity modifiers
- Readily biodegradable
- Environmentally considerate products
- Standard ISO Grades: 600, 750, 1150



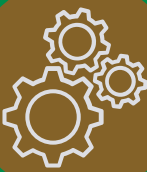
Arctic Specials



- Extra low Pour point up to -60°C
- Specially developed for work in harsh arctic conditions
- Improved lubricating properties
- Top tier modern additives
- Suitable for use all year round
- Hydraulic fluids & Total loss lubricants
- A wide range of ISO Grades



Gear Oils



- Exceptional thermal and oxidation stability
- Superior lubrication & adhesion effects
- Anti-rust and anti-corrosion protection
- Greater friction and wear test results
- Improved low-temperature properties
- Lower tendency to form residues
- Enhanced reliability for uptime and equipment protection
- Environmentally considerate; non-toxic
- CO2 emissions reduction
- Promote Workplace Health & Safety



Turbine Oils

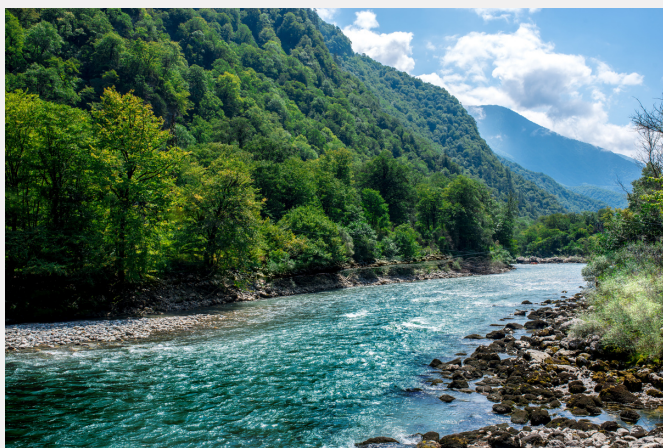


- Ultimate lubricating performance
- Outstanding thermal oxidation stability
- High demulsibility and seal compatibility
- Enhanced reliability for uptime and equipment protection
- Anti-wear & anti-corrosion
- Water and air release properties
- Environmentally considerate products
- CO2 emissions reduction



Marine 2T Oils

- Meet the new NMMA TC-W3® AF27 standards
- Outstanding detergency
- No exhaust smoke, ash-free formula
- Protection of the engine's internal components
- Deliver superior performance
- Cold-start properties
- Prevent clogging of ports, piston ring sticking, and spark plug fouling
- Rust protection during extended engine storage
- Readily biodegradable in marine environment



 **LUBECO**TM

Industrial BIODEGRADABLE Oils and Lubricants

Bio Bar & Chain Oil



Biodegradable Chain and Cutter Bar Lubricant

Features and benefits

- Excellent lubricating properties
- Naturally greater adhesion than mineral oils > reduced throw-offs
- Protected against polymerization
- Improved anti-corrosion & anti-wear protection
- Significantly lower lubricant usage
- Readily biodegradable according to OECD 301D
- EU Ecolabel number CZ/027/001 (ISO VG 68/100/200)
- ISO VG 68/100/200 have been awarded with KWF certificates



Description

Bio Bar & Chain Oil is a premium quality, naturally tacky, rapeseed oil based, readily biodegradable lubricant providing a superior level of lubricity and improved anti-corrosion & anti-wear protection. It contains specially selected EP/Extreme Pressure and AW/Anti-Wear additives and naturally presents an extremely high Viscosity Index. Developed to replace the usual mineral oil based chain lubricants to provide greater performance and reduce environmental footprint.

Technical data (mean values, subject to normal tolerances)

Bio Bar & Chain Oil	Density at 15°C	Kin. Viscosity at 40°C	Biodegradability (within 28 days)	Pour point	Flash point, COC
40	905-935	40	>60	<-25	>260
68	920-940	68	>60	<-25	>260
100	920-960	100	>60	<-25	>260
150	925-955	150	>60	<-25	>260
200	930-960	200	>60	<-25	>260

Saw Blade & Guide Oil



Biodegradable Saw and Saw-Guide Lubricant

Features and benefits

- Excellent lubricating properties - far superior than mineral oils
- Naturally greater adhesion than mineral oils
- Protected against polymerization
- Improved anti-corrosion & anti-wear protection
- Increased overall system efficiency
- Non-toxic; promotes Workplace Health & Safety
- Positive impact on CO2 emissions
- Readily biodegradable according to OECD 301D



Description

Saw Blade & Guide Oils are high-performance, naturally tacky, and readily biodegradable lubricants for heavy-duty applications requiring a high level of lubricity and anti-wear & anti-corrosion protection. Saw Blade & Guide Oils contain specially selected EP/Extreme Pressure and AW/Anti-Wear additives and naturally present an extremely high Viscosity Index. Developed to replace the usual mineral oil based lubricants to provide a greater performance and reduce environmental footprint.

Technical data (mean values, subject to normal tolerances)

Saw Blade & Guide Oil	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
40	904-944	46	9	<-30	>230	>210
100	922-962	100	18	<-30	>250	>200





Features and benefits

- Creates stable emulsion
- Excellent lubricating properties
- Improved anti-corrosion & anti-wear protection
- Increased overall system efficiency
- Non-toxic, user-friendly, promotes Health & Safety
- Readily biodegradable according to OECD 301D



Description

SOL BIOLUBE is a water-soluble, readily biodegradable lubricant designed for applications in the sawmilling industry. SOL BIOLUBE is based on highly refined vegetable esters combined with special additives. Developed to replace the usual mineral oil based lubricants.

SOL BIOLUBE is recommended for use on saw blades, saw guides & wheels, and other lubricating and cooling applications.

Technical data (mean values, subject to normal tolerances)

Sol Biolube	Density at 15°C	Kin. Viscosity at 40°C	pH 5% in distilled water	Corrosion 5% in 20°C dH	Biodegradability (within 28 days)
	900-940	30-36	5,4	negative	> 60

Wire Rope Biolube



Biodegradable Wire Rope Lubricant

Features and benefits

- Improved lubricating performance
- Superior oxidation stability
- Extra anti-corrosion protection
- Creates a strong adhesive film
- Non-toxic, user-friendly, promotes Health & Safety
- Readily biodegradable according to OECD 301D



Description

WIRE ROPE BIOLUBE is a high-performance, readily biodegradable lubricant based on highly refined vegetable esters and modern additive technology. WIRE ROPE BIOLUBE offers superior oxidation stability and a wide temperature range for applications in the most challenging work environment. WIRE ROPE BIOLUBE provides improved lubrication to the rope core and reduced rubbing wear and friction between the individual strands. Developed to replace the usual mineral oil based lubricants.

WIRE ROPE BIOLUBE is specifically designed for lubrication of wire ropes used in mining, forestry, marine, construction, transport, and other industry applications where lubricant contamination is an environmental concern.

Technical data (mean values, subject to normal tolerances)

Wire Rope Biolube	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
	900-940	40	8,53	<-30	>220	>200



Wire Rope WRPX SE



Wire Rope Rust Preventive

Features and benefits

- Superior oxidative stability
- Performance rust & corrosion preventives and inhibitors
- Excellent water & moisture displacing properties
- Penetrates and impregnates wire rope strands and core
- Forms a thin tenacious oil film
- Protects surfaces under severe conditions
- Non-toxic, user-friendly, promotes Health & Safety
- Readily biodegradable according to OECD 301D



Description

WIRE ROPE WRPX SE is based on top-tier saturated synthetic esters of the highest quality. A state-of-the-art additive package provides ultimate rust and corrosion preventive performance. WRPX SE offers superior thermo-oxidative stability and low volatility for use over an extremely long time.

Technical data (mean values, subject to normal tolerances)

Wire Rope WRPX SE	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
	900-920	27	5.5	<-50	>240	>140

Bio Rock Drill



Biodegradable Rock Drilling Oil

Features and benefits

- Excellent lubricating properties
- Naturally greater adhesion than mineral oils
- Protected against polymerization
- High oil film strength
- Improved anti-corrosion & anti-wear protection
- Increased overall system efficiency
- Lower lubricant usage
- Non-toxic; promotes Workplace Health & Safety
- Positive impact on CO2 emissions
- Readily biodegradable according to OECD 301D



Description

BIO ROCK DRILL is a high-performance, vegetable oil based, readily biodegradable drilling lubricant. It contains specially selected EP/Extreme Pressure and AW/Anti-Wear additives and naturally presents an extremely high Viscosity Index for a superior level of lubricity and improved anti-corrosion & anti-wear protection. It was developed to replace the usual mineral oil-based rock drill lubricants to provide greater performance and reduce environmental footprint. BIO ROCK DRILL is designed for all types of rock drilling applications in mining, quarrying, construction, road works, tunneling, and excavations. BIO ROCK DRILL is particularly recommended for use in environmentally sensitive areas to minimise contamination of surface and groundwater.

Produced at a range of viscosity classes ISO VG 100/150/220/320/460.

Technical data (mean values, subject to normal tolerances)

Bio Rock Drill	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
100	920-960	100	18	<-30	>260	>200
150	925-955	150	25	<-30	>260	>200
220	930-960	220	34	<-30	>260	>200
320	935-965	320	45	<-25	>230	>170
460	940-970	460	52	<-25	>230	>170



Bio HO Premium



Fully synthetic biodegradable Hydraulic Oil (HEES)

Features and benefits

- Ultimate performance and anti-wear protection
- Excellent in-class low-temperature properties
- Hydrolytic stability and thermo-oxidative resistance
- Protection against rust and corrosion; non-foaming additives
- Compatibility with seal materials, paints, and hoses
- Extremely long oil-change interval, often used as a “lifetime fill”
- Readily biodegradable according to OECD 301D
- Non-toxic, CO₂ emissions reduction
- EU Ecolabel Certificate (No. CZ/027/001)



Description

PREMIUM Hydraulic Oil is an ultimate performance, fully synthetic, zinc-free, environmentally acceptable hydraulic fluid (EAL) based on top-tier saturated synthetic esters of the highest quality. It delivers excellent high-pressure and temperature properties, multiple extendibility of change intervals, and great cold-exposure characteristics. Produced at a range of viscosity classes ISO VG 15/22/32/46/68.

Technical data (mean values, subject to normal tolerances)

Bio HO Premium HEES	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
15	897-937	15	3,88	<-70	>230	>160
22	888-928	22	5,05	<-65	>240	>165
32	900-940	32	7,2	<-50	>230	>170
46	900-940	46	9,6	<-50	>230	>180
68	900-940	68	13,8	<-45	>210	>180

Bio HO Plus



Fully synthetic biodegradable Hydraulic Oil (HEES)

Features and benefits

- Superior performance and anti-wear protection
- Outstanding thermal oxidation stability
- Extremely wide operating temperature range
- Very long oil-change interval > reduction in CO₂ emissions
- Neutral to seal materials and elastomers
- Extra non-foaming additives
- Readily biodegradable according to OECD 301D
- Non-toxic, CO₂ emissions reduction
- EU Ecolabel Certificate (No. CZ/027/001)



Description

Hydraulic Oil PLUS is a high-performance, fully synthetic, zinc-free, environmentally acceptable hydraulic fluid (EAL) based on a mixture of saturated synthetic esters. A special additive package delivers excellent extreme pressure properties, thermo-oxidative oxidative resistance, anti-wear, and non-foaming control. It provides an extremely wide operating temperature range. Produced at a range of viscosity classes ISO VG 15/22/32/46/68/100.

Technical data (mean values, subject to normal tolerances)

Bio HO Plus HEES	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
15	879-919	15	4,54	<-45	>200	>200
22	883-923	22	5,80	<-45	>220	>200
32	900-940	32	6,9	<-35	>210	>180
46	900-940	46	9,4	<-35	>260	>180
68	900-940	68	13,8	<-35	>260	>180



Bio Hydraulic Oil



Biodegradable Hydraulic Oil (HETG)

Features and benefits

- Improved thermal oxidation stability
- Modern additive technology
- Great friction and wear test results
- Exceptional cold exposure properties
- Excellent lubrication
- Anti-rust and anti-corrosion protection
- Made from renewable resources
- Non-toxic; Readily biodegradable according to OECD 301D



Description

Bio Hydraulic Oils are new-generation, readily biodegradable hydraulic fluids based on natural esters (triglycerides). Modern additive technology ensures improved oxidation resistance and aging stability. They provide an excellent level of lubrication and an extended operating temperature range. Designed for the lubrication of hydrostatic and hydrodynamic machine mechanisms.

Produced at a range of viscosity classes ISO VG 32/46/68.

Technical data (mean values, subject to normal tolerances)

Bio HO HETG	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
32	900-940	32	8,1	<-30	>270	>190
46	900-940	46	9,5	<-30	>270	>190
68	900-940	68	12,1	<-30	>260	>190

Bio HO Opti



Fully synthetic biodegradable Hydraulic Oil (HEPR)

Features and benefits

- Superior thermo-oxidative and hydrolytic stability
- Outstanding frictional performance and anti-wear protection
- Special non-foaming additives
- Protection against rust and corrosion
- Designed to withstand extreme conditions, extra low temperature properties
- Compatible with seal materials, paints, and hoses
- Intended for severe service, extremely long change intervals
- Readily biodegradable according to OECD 301D



Description

Bio HO OPTI is a high-performance, renewable hydrocarbon-based (PAO) environmentally acceptable hydraulic fluid (EAL). On the scale of biodegradable hydraulics fluids, HEPR is a well-balanced combination of biodegradability and quality of fully synthetic PAO base oils. It provides a very high level of thermo-oxidative and hydrolytic stability at both high and extremely low operating temperatures. Its modern, zinc-free, and ash-free additive technology guarantees maximum lubrication reliability, shear stability, and corrosion protection. Bio HO OPTI features a low foaming tendency, and good water and air release characteristics, as well as compatibility with seal materials.

Produced at a range of viscosity classes ISO VG 32/46/68.

Technical data (mean values, subject to normal tolerances)

Bio HO Opti HEPR	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
46	850-890	46	8,5-10,5	<-55	>240	>180



Bio HO FR HFDU



Fully synthetic biodegradable Hydraulic Oil Fire-Resistant (HFDU)

Features and benefits

- Very good fire resistance – reducing the possibility of ignition in case of fluid leakage
- Ultimate performance and anti-wear protection
- Outstanding thermal oxidation stability
- Extra high Viscosity Index - wide operating temperature range
- Very long oil-change interval > reduction in CO2 emissions
- Non-toxic; Readily biodegradable according to OECD 301D
- EU Ecolabel Certificate (No. CZ/027/001)



Description

Bio HO FR HFDU is a high-performance, fire-resistant, readily biodegradable hydraulic fluid based on synthetic esters. A special additive package delivers excellent extreme pressure properties, thermal oxidation resistance, anti-wear, and non-foaming control. It provides an extremely wide operating temperature range and allows for very long oil-change intervals resulting in cost effectiveness and CO2 emissions reduction.

Produced at a range of viscosity classes ISO VG 32/46/68.

Technical data (mean values, subject to normal tolerances)

Bio HO FR HFDU	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
46	900-940	46	9,5	<-40	>305	>180
68	900-940	68	12	<-40	>305	>180

Bio HO FR HFC



Fully synthetic Biodegradable Hydraulic Oil Fire-Resistant (HFC)

Features and benefits

- Excellent fire resistance properties
- Based on a water-glycol principle
- Improved anti-wear and load-carrying performance
- Extra high Viscosity Index (VI)
- Wide temperature range performance
- With non-foaming additives
- Readily biodegradable



Description

Bio HO FR HFC is a special hydraulic fluid based on a water-glycol principle. It is recommended for applications requiring a high degree of lubricity and fire resistance. It meets the requirements of the fire resistance approval standards 7th Luxembourg Report and FM Global 6930.

Technical data (mean values, subject to normal tolerances)

Bio FR HFC	Flash point, COC	Kin. Viscosity at 40°C	Kin. Viscosity at 0°C	Pour point	pH	Viscosity index
46	none	46	213	<-40	9	>260





Multi-purpose Lubricant, Penetrating Oil, Corrosion Inhibitor

Features and benefits

- Superior lubrication performance
- Multi-purpose application
- Excellent anti-rust and anti-corrosion protection
- Non-toxic, user-friendly
- Readily biodegradable according to OECD 301D
- Available in both neat and aerosol applications



Description

BIOSYNT 40V is a premium, fully synthetic oil based on fully saturated synthetic esters. It is characterized by excellent lubricating, penetrating, preservative, and moisture-displacing effects. It contains specialty antioxidant agents for extra high oxidation stability, adsorption, anti-corrosion, anti-abrasion, and anti-foaming additives. BIOSYNT 40V is suitable for lubrication of all mechanical equipment.

BIOSYNT 68 V/H is recommended for railway applications; lubrication of wheel flanges, switch plates, etc. It can be applied using on-board distribution systems or fixed rail track lubricators.

Technical data (mean values, subject to normal tolerances)

Biosynt	Density at 15°C	Kin. Viscosity at 40°C	Pour point	Flash point, COC	Biodegradability (within 28 days)
40V	901-941	48	<-35	>300	>60
68V/H	897-937	68,21	<-43	>255	>60

EcoUNI Premium



Fully synthetic Universal Tractor Transmission Oil (UTTO)

Features and benefits

- Improved lubrication performance
- Excellent anti-wear protection
- Superior friction performance for transmission clutches and gear boxes
- Extra-long change intervals
- Very good thermo-oxidation stability
- Protection against rust and corrosion;
- Extra EP and AW additives
- Readily biodegradable according to OECD 301D



Description

EcoUNI Premium is a premium quality multi-purpose tractor oil, which is produced from synthetic esters. Thanks to its well-balanced combination of additives it offers increased lubrication capacity and extra abrasion protection. It delivers improved anti-friction properties and texture, thus effectively protecting against corrosion even in a very humid environment and broad range of temperatures. It surpasses conventional lubricants for functional properties and stability in working conditions.

EcoUNI Premium is a readily biodegradable UTTO for reduced environmental footprint.

Technical data (mean values, subject to normal tolerances)

EcoUNI Premium	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
	880-920	56	10,6	<-45	>240	>170





Biodegradable non-stick Release Agent

Features and benefits

- Low viscosity release agent creating long-lasting oil film
- Universal applicability
- Lower aerosol creation
- Improved rust and corrosion protection
- Does not affect the technical parameters of asphalt or concrete
- Non-toxic; promotes Workplace Health & Safety
- Positive impact on CO₂ emissions
- Readily biodegradable according to OECD 301D



Description

EcoSEP is specifically developed for use in asphalt separation across all levels of asphalt production, transportation, and road application. It provides extremely easy release properties and protection for used tools and equipment. Thanks to modern additives EcoSEP minimises the creation of an aerosol and therefore lowers release agent usage, particularly in applications by pressure spraying equipment. It is also suitable for use in the separation of concrete mixtures, production of concrete prefabricates, and general concrete applications in the construction sector.

Technical data (mean values, subject to normal tolerances)

EcoSEP	Density at 15°C	Kin. Viscosity at 40°C	Pour point	Flash point, COC	Biodegradability(within 28 days)
	885-925	7-12	<-15	>150	>60

Sol Biolube ASP



Emulsifiable Biodegradable Release Agent for Asphalt and Aggregates

Features and benefits

- Superior release effect
- Based on natural vegetable oils
- Contains special emulsifiers
- Free from mineral oils and solvents
- Non-toxic; promotes Workplace Health & Safety
- Positive impact on CO₂ emissions
- Readily biodegradable according to OECD 301D



Description

SOL BIOLUBE ASP is a readily biodegradable release agent based on natural vegetable oils and special emulsifiers. It is designed for use in asphalt, paving, and aggregate handling applications. The product prevents asphalt mixture from adhering to working surfaces while ensuring environmental safety. SOL BIOLUBE ASP is an environmentally considerate, non-toxic product that improves Workplace Health & Safety.

SOL BIOLUBE ASP is suitable for use on all construction sites, particularly in environmentally sensitive areas such as water sources, water protection zones, and road infrastructure. It is applied to dump truck beds, pavers, rollers with rubber tires, and other construction machinery.

Technical data (mean values, subject to normal tolerances)

Sol Biolube ASP	Density at 15°C	Kin. Viscosity at 40°C	pH 5% in distilled water	Corrosion 5% in 20°C dH	Biodegradability (within 28 days)
	900-940	30-36	5,4	negative	> 60





Blown rapeseed oil (BRSO)

Features and benefits

- Unique production
- Various ranges of viscosities
- Great lubrication performances
- High thermo-oxidation stability
- Excellent cold-exposure properties
- Readily biodegradable according to OECD 301D



Description

Production of BRSO blown oils is carried out by controlled polymerization (raising air to the relevant temperature), This special application leads to the controlled raising of viscosity whilst retaining all the positive qualities of vegetable oils. The upper limit of viscosity value is at around 2000 mm²/s at 40°C (set above all by the manipulability of a given oil). BRSO provide an excellent level of lubrication capacity.

BRSO blown oils are readily biodegradable products based on renewable materials. Specifically developed to reduce the environmental footprint.

Technical data (mean values, subject to normal tolerances)

BRSO	Density at 15°C	Kin. Viscosity at 40°C	Water content (ppm)	Pour point	Flash point, COC	Acid number
600	950-990	540-660	<2000	<-15	>240	<9,5
750	945-995	675-825	<3000	<-15	>220	<12
900	945-995	810-990	<3000	<-15	>220	<12
1150	955-995	1035-1265	<3000	<-15	>220	<12

Bio HO Premium Arctic



Fully synthetic biodegradable Hydraulic Oil (HEES)

Features and benefits

- Ultimate lubrication performance
- Developed for work in harsh arctic conditions
- Perfect anti-wear properties
- Extra cold-exposure properties
- Compatibility with sealing materials, paints, and hoses
- Protection against rust and corrosion
- With non-foaming additives
- Excellent thermo-oxidation stability
- Readily biodegradable according to OECD 301 D
- EU Ecolabel certificate (No. CZ/027/001)



Description

Bio HO PREMIUM Arctic is an ultimate performance, fully synthetic, zinc-free, environmentally acceptable hydraulic fluid (EAL) based on top-tier saturated synthetic esters of the highest quality. Arctic range is specially designed for work in extreme cold conditions all year long. It delivers outstanding extreme pressure properties, thermo-oxidative resistance, and hydrolytic stability at both high and extremely low operating temperatures.

Produced at a range of viscosity classes ISO VG 15/22/32/46/68.

Technical data (mean values, subject to normal tolerances)

HO Premium Arctic	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
46	903-923	46	9,6	<-60	>220	>230



Bio Bar & Chain Oil Arctic



Biodegradable Chain and Cutter Bar Lubricant

Features and benefits

- Specially developed for work in harsh arctic conditions
- Excellent lubricating properties
- Naturally greater adhesion than mineral oils > reduced throw-offs
- Protected against polymerization
- Suitable for use all year round
- Improved anti-corrosion & anti-wear protection
- Readily biodegradable according to OECD 301D



Description

Bio Bar & Chain Oil Arctic is a premium quality, naturally tacky, rapeseed oil based, readily biodegradable lubricant providing a superior level of lubricity and improved anti-corrosion & anti-wear protection. It contains specially selected EP/Extreme Pressure and AW/Anti-Wear additives and Pour point depressant and naturally presents an extremely high Viscosity Index. Developed to replace the usual mineral oil based chain lubricants to provide greater performance and reduce environmental footprint. Arctic range is specially designed for work in extreme cold conditions all year long.

Technical data (mean values, subject to normal tolerances)

Bio B&Ch Oil Arctic 68	Density at 15°C 920-940	Kin. Viscosity at 40°C 68	Pour point <-40	Flash point, COC >260	Biodegradability (within 28 days) >60
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Ecogear Synth



Fully synthetic biodegradable Industrial Gear Oil

Features and benefits

- Exceptional thermal and oxidation stability
- Superior lubrication & adhesion effect
- Extra high Viscosity Index (VI)
- Increased anti-rust and anti-corrosion protection
- Greater friction and wear test results
- Non-toxic; promotes Workplace Health & Safety
- Readily biodegradable according to OECD 301D



Description

ECOGEAR SYNTH is fully synthetic high-performance gear oil developed to meet the demanding requirements through enhanced wear protection, system efficiency, and long oil life. ECOGEAR SYNTH gear oils are used whenever mineral gear oils have reached their performance limit and can no longer meet the application requirements; for example, at very low or high temperatures, extremely high loads, extraordinary ambient conditions, or if they fail to meet special requirements such as flammability. ECOGEAR SYNTH are environmentally acceptable lubricants (EALs). Produced at a range of viscosity classes ISO VG 68/100/150/220/320/460.

Technical data (mean values, subject to normal tolerances)

Ecogear Synth	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Biodegradability (within 28 days)
68	905-920	68	11	<-50	>270	>80
100	910-930	100	15	<-45	>270	>80
150	915-935	150	16	<-45	>270	>80
220	920-945	220	28	<-35	>270	>80
320	930-950	320	37	<-30	>250	>80
460	935-960	460	45	<-30	>250	>80



Ecoturbine Synth



Fully Synthetic Turbine Oil

Features and benefits

- Ultimate lubricating performance
- Outstanding thermal oxidation stability
- Excellent demulsibility and seal compatibility
- Enhanced reliability for uptime and equipment protection
- Anti-wear & anti-corrosion properties
- High system and energy efficiency over a wide temperature range
- Based on renewable materials, CO₂ emission reduction
- Non-toxic, readily biodegradable according to OECD 301D



Description

ECOTURBINE SYNTH is an ultimate-performance hydraulic turbine oil based on top-tier saturated synthetic esters and modern additive technology. It is a readily biodegradable & environmentally acceptable lubricant (EAL) specifically designed for hydroelectric power generation. ECOTURBINE SYNTH is used for the lubrication of bearings and bearing systems in turbines. ECOTURBINE SYNTH can also be used as a governor oil and hydraulic fluid. Produced at a range of viscosity classes ISO VG 22/32/46/68/100.

Technical data (mean values, subject to normal tolerances)

Ecoturbine Synth	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
22	905-920	22	>5	<-50	>240	>150
32	920-935	32	>6	<-50	>240	>150
46	930-945	46	>8	<-40	>240	>150
68	955-970	68	>11	<-40	>240	>150
100	960-975	100	>15	<-40	>240	>150

Bio 2T Outboard Oil



Fully synthetic 2-Stroke Marine Oil

Features and benefits

- Outstanding detergency in outboard water-cooled 2-Stroke engines
- No exhaust smoke, ash-free formula
- Exceptional anti-rust and anti-corrosion properties
- Protection of the engine's internal components
- Delivers excellent low-temperature performance
- Prevents clogging of ports, piston ring sticking, and spark plug fouling
- Rust protection during extended engine storage periods
- Meets the new lubricity requirements **NMMA TC-W3® AF-27**
- Readily biodegradable in the natural environment



Description

BIO 2T Outboard Oil is a superior performance NMMA TC-W3® fully tested and certified lubricant for all 2-Stroke gasoline engines of outboards, jet-ski, and other leisure craft. BIO 2T Outboard Oil is engineered using the latest technology for ultimate engine protection. BIO 2T Outboard Oil is readily biodegradable & non-toxic in the marine environment.

Technical data (mean values, subject to normal tolerances)

Bio 2T Outboard	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
	870-890	45	Min. 8	<-40	>92	>145



Bio 2T Engine Oil



Fully synthetic 2-Stroke Engine Oil

Features and benefits

- Superior lubrication at extreme temperatures
- Improved engine wear protection
- Perfect miscibility with petrol
- No residue in the engine and on the pistons
- Clean burn, reduced exhaust smoke
- Ultimate engine performance > reduction in CO₂ emissions
- Non-toxic, readily biodegradable according to OECD 301D



Description

BIO 2T is a premium quality, fully synthetic, low ash two-stroke engine formula offering excellent lubrication properties and improved engine wear protection. BIO 2T is readily biodegradable and presents an environmentally friendly alternative to the usual mineral oil based lubricants without compromising performance.

BIO 2T is specifically designed for air-cooled, twin-stroke engine applications involving extreme levels of engine temperature, engine speed, and torque. It is recommended lubricant for use in chainsaws, brush cutters, trimmers, and other commercial and domestic equipment.

Technical data (mean values, subject to normal tolerances)

Bio 2T Oil	Density at 15°C	Kin. Viscosity at 40°C	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index
	876-896	45	min. 7,5	<-47	>90	140

Eco 4T Engine Oil



Fully synthetic 4-Stroke Engine Oil

Features and benefits

- Excellent lubrication to all moving parts of highly stressed modern four-stroke engines
- Improved performance and engine wear protection
- Easy start at low temperatures
- Inhibits high-temperature deposits and low-temperature sludge
- Protection against rust and corrosion
- Extra cleanliness of internal engine parts
- Non-toxic, readily biodegradable according to OECD 301D



Description

ECO 4T is a premium quality, fully synthetic four-stroke engine oil for high-performing engines of small gardening and agricultural equipment requiring SAE30 oil specification. ECO 4T contains modern enhancing agents (oxidation and corrosion inhibitors, detergent-dispersant additives) and offers excellent lubrication properties as well as improved engine wear protection. ECO 4T is an environmentally friendly alternative to the usual petroleum based products.

ECO 4T is specifically designed for lubrication of 4-Stroke petrol and diesel engines, high-speed small gardening, agricultural and municipal equipment (lawn mowers, ride-on mowers, small tractors, snow blowers, generators, motor pumps, etc) requiring the use of SAE 30 oil grade.

Technical data (mean values, subject to normal tolerances)

Eco 4T Oil	Kin. Viscosity at 100°C	Pour point	Flash point, COC	Viscosity index	Evaporation test, Noack	TBN
	11,2	<-35	>220	>150	7	8





**Environmentally Acceptable (EAL)
& Biodegradable Lubricants**

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