ECOCOOL / ECOCUT

Metalworking Fluids



MOVING YOUR WORLD



FUCHS LUBRICANTS GERMANY

Facts and figures

Company: FUCHS LUBRICANTS GERMANY GmbH,

a company of the FUCHS Group

Headquarters: Based in Mannheim, with sites in Kaiserslautern,

Kiel and Wedel; approx. 1,400 specialists

Product range: A full range of more than 3,000 products for all

application areas

Certifications: ISO 9001, IATF 16949, ISO 14001, ISO 45001, ISO 50001, ISO 21469, HALAL, KOSHER

(detailed certifications at www.fuchs.com/de)

CO, neutral production*

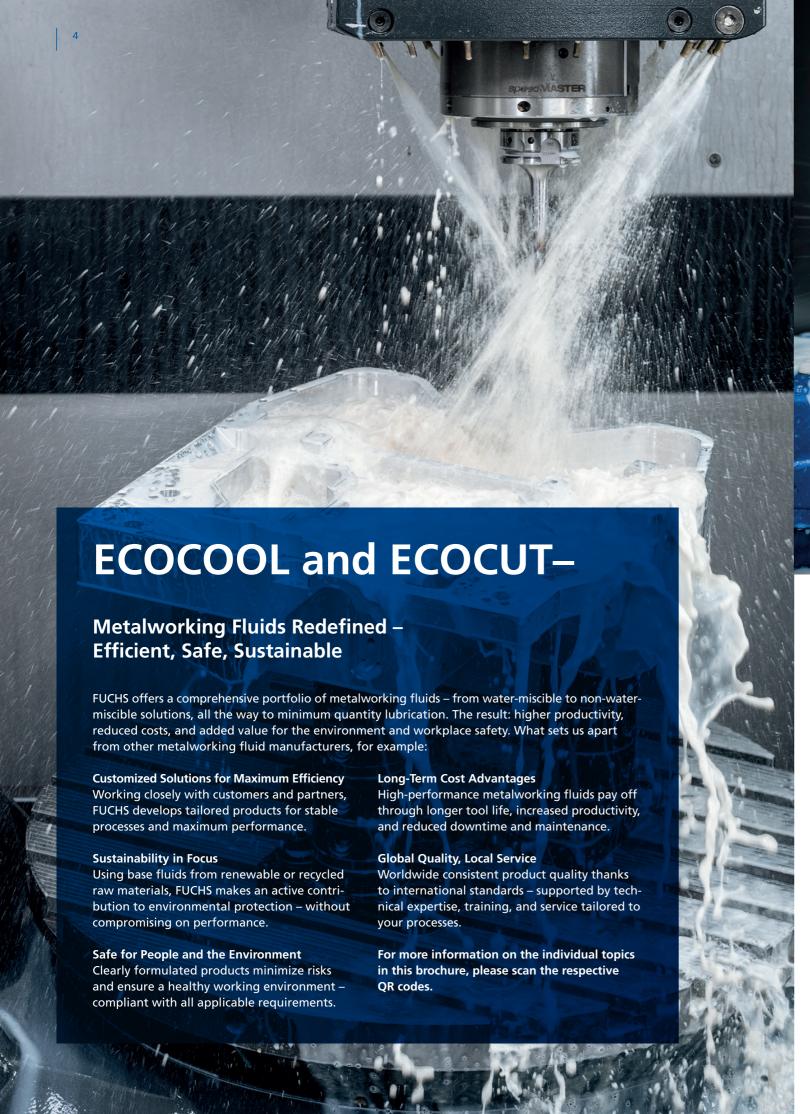
FUCHS LUBRICANTS GERMANY is a subsidiary of FUCHS SE, the world's largest independent supplier of lubricant solutions. Around 1,400 specialists at the headquarters in Mannheim and the sites in Kaiserslautern, Wedel, Kiel and Dohna work with dedication on innovative lubricant solutions that enable the mobility of tomorrow.

The high level of technical consulting expertise combined with the largest, nationwide network of its own technical contacts makes FUCHS LUBRICANTS GERMANY a reliable local partner. A comprehensive product range, supplemented by digital offerings and Smart Services, as well as many years of lubricant expertise and a high level of research competence are the foundations for the innovative FUCHS lubricant solutions. They reduce wear and energy requirements, extend the running times and service life of machines, and thus keep the world moving - from industrial motors and e-cars to wind turbines and washing machines. FUCHS LUBRICANTS GERMANY is certified according to a wide range of standards and, as a technology leader and development partner, places the highest demands on quality management.

Customers in all industries benefit from this quality management: automotive suppliers and OEM, mechanical engineering, metal processing, mining and exploration, aerospace, energy, construction and transport, agriculture and forestry, as well as the paper, steel, metal, cement, forging and food industries, but also qualified lubricant dealers, car dealerships and workshops.

MOVING YOUR WORLD

*Gate-to-Gate Scope includes GHG-Protocol Scope 1, 2 and selected Scope 3 emissions (water, waste, business travel, commuting)





Strong Performance

ECOCOOL impresses with excellent cooling and flushing capabilities, high lubrication performance, and reliable corrosion protection. The products are stable under pressure and temperature, enabling safe machining even with demanding materials - for example, in medical technology, the aerospace industry, or the semiconductor sector. The resulting high process stability reduces machine downtime and ensures consistent quality in production.

Safe and Sustainable in Use

Sustainability and user protection are already considered during formulation development. ECOCOOL products are free from boron, nitrite, formaldehyde releasers, and DCHA. They are skin-friendly and meet all legal requirements. Their long service life and low consumption reduce operating, maintenance, and disposal costs. Especially low-emission variants also contribute to improved air quality in the workplace.

Prepared for All Applications

Whether standard machining or high-tech applications - ECOCOOL offers solutions for a wide range of requirements. Some products are available worldwide under the name ECOCOOL GLOBAL, enabling uniform manufacturing processes at all customer locations. For sensitive materials, fully synthetic variants are available that provide particularly residue-free surfaces, thereby reducing additional cleaning efforts.

Below you will find an overview of ECOCOOL products and their application areas. The matrix shows which products are particularly suitable for which materials and machining processes.



Further information on the ECOCOOL products can be found via the QR code.

	Suita	ability		Operation (light to heavy)									
Product	ACT Technology*	Contains EP (Extreme Pressure) additive	Dilution water hardness in °dH (soft, medium, hard)	Grinding	Sawing	Drilling	Turning	Milling	Deep Hole Boring	Tapping	Reaming	Broaching	
Option	Product												
	ECOCOOL GLOBAL 1000	Х	✓	w, m, h	/ /	//	//	//	11	11	//	/ /	✓
	ECOCOOL GLOBAL 1500	Х	✓	w, m, h	~	//	//	//	/ /	/ /	//	/ /	✓
ECOCOOL GLOBAL	ECOCOOL GLOBAL 2000	Х	✓	w, m, h	~	/ /	/ /	/ /	11	/ /	//	/ /	Х
	ECOCOOL GLOBAL 2500	Х	✓	w, m, h	V	//	~~	//	//	/ /	~~	//	✓
	ECOCOOL GLOBAL 3500	Х	✓	w, m, h	V	//	//	//	/ /	Х	✓	х	X
ECOCOOL CORE	ECOCOOL MACH 300	Х	✓	w, m	~	//	//	/ /	11	/ /	//	//	Х
	ECOCOOL AFB 300	Х	✓	w, m	V	//	//	//	//	/ /	~~	//	Х
	ECOCOOL FERROSTAR MBF	Х	✓	w, m, h	~	//	//	//	/ /	✓	//	✓	Х
	ECOCOOL MODULAR SYSTEM	Х	✓	w, m, h	~	//	//	//	/ /	/ /	//	/ /	√ 1
	ECOCOOL AFC 1515 LC-K	✓	✓	w, m, h	~	/ /	//	/ /	11	/ /	//	/ /	✓
	ECOCOOL LCF 1515	✓	✓	w, m, h	V	//	//	//	//	/ /	~~	//	✓
	ECOCOOL MACH 15	✓	Х	w, m, h	~	//	~	//	11	х	х	х	Х
	ECOCOOL VHCM-1 CP	Х	Х	w, m, h	~	11	11	11	11	х	х	Х	X
	ECOCOOL 2516 MG-DC	Х	✓	m, h	✓	√ √	//	✓ ✓	//	✓ ✓	√√	√ √	Х
	ECOCOOL S-CO 5 BF	X	X	w, m	✓ ✓	Х	Х	Х	Х	Х	Х	Х	X
	ECOCOOL S-G2	Х	✓	w, m	✓ ✓	11	11	11	11	11	11	//	X
ECOCOOL S LINE	ECOCOOL S-FC VW	X	✓	w, m	✓ ✓	//	11	//	11	✓	✓	✓	X
	ECOCOOL S-GSK	X	Х	w, m	*	Х	Х	Х	Х	Х	X	X	X
	ECOCOOL S-ZNS	Х	✓	w, m, h	~	//	//	//	//	Х	Х	х	Х

IVIALE	riais (son ic	nara	,										Key								
Composites	Magnesium	Brass	Aluminium	Aero Alloys	Copper	Grey cast iron (lamellar graphite cast iron, EN-GJL)	Ductile cast iron (spheroidal graphite iron, EN-GJS)	Mild Steel	High-strength steels	Stainless steels	Titanium alloys	Nickel alloys – Inconel 718	Cobalt-containing steels/ Tungsten carbide	Recommended Suitable X Not recommended								
														Comments								
Х	✓	✓	//	/ /	✓	✓	X	//	//	//	//	//	X	Airbus AIPS 00-00-010, SAFRAN PR 6300, Medical Cytotoxicity and Semicon OMNEO - ASML Grade 2 approved, GROB, DMG MORI.								
X	X	✓	/ /	/ /	✓	✓	X	//	/ /	/ /	/ /	/ /	X	New technology, mineral oil free specifically designed for steel, titanium and aluminium alloys.								
Х	Х	✓	11	11	✓	✓	Х	11	11	11	х	Х	Х	New technology, specifically designed for automotive and supplier industry.								
Х	X	✓	11	11	✓	✓	Х	//	11	11	✓	✓	Х	New technology, specifically designed for heavy duty aluminium applications.								
Х	Х	х	✓	х	х	11	/ /	/ /	✓	✓	х	х	Х	New technology, specifically designed for cast iron, ductile cast iron and low alloy steel.								
х	✓	✓	11	11	✓	✓	Х	11	11	11	✓	✓	Х	Multifunctional metalworking fluid with broad application spectrum.								
Х	х	11	11	11	11	✓	Х	//	11	11	✓	✓	Х	Universally applicable metalworking fluid with special suitability for non-ferrous metal machining.								
Х	Х	х	✓	Х	Х	//	/ /	//	✓	✓	х	Х	Х	MWF for casting machining, especially for ductile cast iron, featuring excellent pH stability and corrosion resistance.								
Х	Х	Х	/ /	✓	Х	//	/ /	/ /	//	//	11	/ /	Х	2-pack system, multifunctionally adjustable to machining processes and materials – reduces product variety.								
Х	Х	✓	/ /	✓	✓	✓	х	/ /	//	/ /	✓	✓	Х	Sustainable MWF for high-alloy steels and aluminum, also suitable for galvanized alloys.								
Х	Х	~	/ /	✓	✓	✓	Х	//	//	/ /	✓	✓	Х	Sustainable, labeling-free metalworking fluid for high-alloy steels and aluminum, offering excellent bimetallic corrosion protection.								
Х	Х	х	✓	х	Х	//	//	//	✓	✓	х	Х	Х	Sustainable, non-labeling metalworking fluid, especially for steel and casting applications.								
Х	Х	Х	~	Х	Х	//	//	/ /	~	~	х	Х	Х	MWF especially for steel and casting applications with high corrosion protection.								
X	/ /	Х	✓	Х	Х	X	X	✓	✓	✓	Х	Х	X	Cytotoxicity tested according to EN ISO 10993-1/-5/-12, high cutting performance, long emulsion life, special product for magnesium machining.								
Х	х	х	Х	Х	Х	✓	Х	✓	✓	✓	Х	Х	//	Fully synthetic MWF for grinding.								
Х	Х	✓	//	//	✓	х	х	/ /	/ /	/ /	//	Х	х	Fully synthetic MWF or general applications with aluminum and stainless steels.								
Х	Х	Х	х	x	х	//	/ /	✓	✓	✓	х	х	Х	Fully synthetic MWF or general machining and grinding.								
√ √	Х	Х	х	Х	х	✓	✓	✓	√	✓	Х	Х	Х	Fully synthetic MWF for glass, ceramics, and composite materials.								
✓	Х	✓	~	х	✓	✓	✓	//	11	11	х	х	Х	Fully synthetic MWF designed for galvanized alloys and steel.								

Key

*see page 9

Complete Fluid Solutions

Intelligent solutions for complex processes







ECOCOOL/ECOCUT Premium machining and grinding



Materials (soft to hard)







Strong in Performance

ECOCUT offers excellent lubrication as well as cooling and flushing performance - even in demanding machining processes such as deep hole drilling, broaching, or grinding. Its high thermal stability ensures consistent machining quality, even under intensive use. At the same time, extended tool life boosts efficiency and minimizes downtime.

Safe and Sustainable in Use

ECOCUT products are based on modern base oils such as high-quality mineral oils, GTL oils, or synthetic esters. These formulations are particularly oxidation-stable and low in evaporation, enabling economical consumption. Variants with recycled base fluids reduce resource usage and thus contribute to environmental protection. In addition, the portfolio includes particularly low-emission products that improve air quality in production environments. High flash points also ensure safe use and reduce the risk of fire and explosion hazards.

Prepared for All Applications

For particularly sensitive applications, such as in medical technology or the aerospace industry, specially tested and approved ECOCUT variants are available. With universal oils from the HFN series, which can be used both as cutting oils and hydraulic oils, leaks no longer have a negative impact on the machining process.

Below you will find an overview of ECOCUT products and their application areas. The matrix shows which products are particularly suitable for which materials and machining processes.

Further information about the ECOCUT products can be found via the QR code.



Time to ACT: Renewable, bio-based, recycled. On the way to a circular economy.

dvanced ircular echnologies

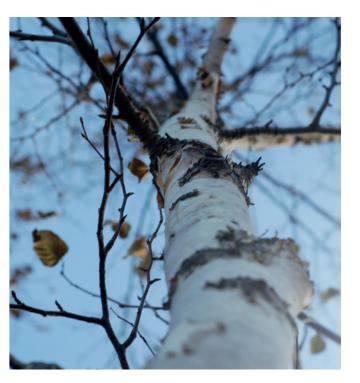
FUCHS has set itself ambitious goals, to achieve climate neutrality:

Our short-term goals:

- Reduction of Scope 1 & 2 emissions by at least 42% by 2030
- Reduction of Scope 3 emissions by at least 25% by 2035

Our long-term targets:

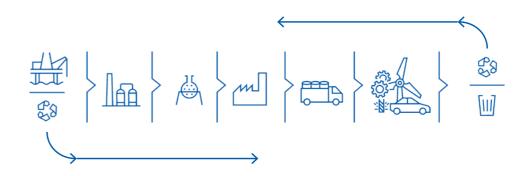
- By 2040, reduce Scope 1 and Scope 2 emissions by at least 90% by 2040 (compared to the base year 2021)
- To reduce all Scope 3 emissions by at least 90% by 2050. The base year for this reduction target is 2023



But to achieve this target on time, we need to act now. And with our strongest sustainability instrument to date: Advanced Circular Technologies or ACT. ACT is our answer to the challenge of completely transforming our to completely transform our value chain from linear to circular - without compromising on performance.

Our first step starts at the very beginning of the value chain: We start by gradually replacing finite raw materials gradually replacing finite raw materials with renewable, bio-based or recycled ones. And ensuring that everything that leaves our factories can be effectively recycled.

In short, future lubricants could be based on birch bark instead of petroleum, for example. However, this is only the first step on our path to a circular economy. Time to ACT: Renewable, bio-based, recycled - on the way to the circular economy.



Further information on the topic of ACT can be found via the QR code.



Product Selection Guide			eral rmation	nen		Operation (light to heavy)								
			Contains EP - Extreme Pressure Additive	Viscosity at 40°C	Complies with DGUV-209-026	Grinding	Sawing	Drilling	Turning	Milling	Deep Hole Boring	Tapping	Reaming	Broaching
Option	Product										_			
HIGH PERFORMANCE	ECOCUT 8536 S	Х	√ √	40	Х	Х	✓	✓	✓	11	✓	//	/ /	/ /
	ECOCUT LCF 714	✓	√ √	14	Х	Х	11	11	11	11	11	11	//	√ √
	ECOCUT 615 A	Х	√ √	18	✓	Х	//	~	~~	~~	~~	✓	//	✓
	ECUT FT 11 HP	Х	√ √	11	✓	✓	✓	//	~	//	//	✓	/ /	✓
	ECOCUT HFN 15 GB 1	Х	√ √	15	Х	Х	11	~	~~	~~	~~	//	✓	✓
	ECOCUT 717 LE	Х	√ √	17	Х	Х	✓	✓	~	//	~	//	/ /	/ /
UNIVERSAL	PLANTOCUT 22 AC	✓	✓	22	✓	Х	✓	✓	~	//	✓	✓	✓	✓
	PLANTOCUT 40 SR ACT	✓	✓	40	✓	Х	✓	✓	~~	~~	~	//	✓	✓
	ECOCUT 615 LE	✓	✓	15	✓	Х	11	11	11	11	✓	✓	✓	✓
	ECOCUT 522	Х	√ √	24	Х	Х	✓	11	11	11	✓	11	✓	✓
HFN SERIES	ECOCUT HFN 32 LE	Х	✓	30	✓	Х	~	11	11	✓	✓	✓	✓	Х
	ECOCUT HFN 22 LE	Х	✓	22	✓	✓	~	11	11	✓	✓	✓	✓	X
	ECOCUT HFN 16 LE-R ACT	✓	✓	16	✓	/ /	11	11	11	✓	✓	✓	✓	X
	ECOCUT HFN 10 LE-R ACT	✓	✓	11	✓	/ /	11	11	11	✓	✓	✓	✓	X
	ECOCUT HFN 5 LE-HC	Х	✓	4	Х	/ /	✓	✓	х	х	х	х	х	Х
Special Applications	ECOCUT FT 7 WSO	Х	✓	7	✓	V	Х	Х	х	Х	Х	Х	Х	Х
	ECOUT HS	Х	✓	5	Х	/ /	Х	Х	Х	Х	Х	Х	X	Х
	ECOCUT FT 218 HSG	Х	✓	17	✓	/ /	Х	Х	х	х	Х	Х	Х	Х
	ECOCUT FE	Х	Х	4	Х	V	Х	X	Х	X	Х	X	X	Х
- ds	ECOCUT GBS 5	Х	✓	5	✓	/ /	Х	Х	Х	Х	Х	Х	X	Х
* 0														

Recommended Suitable Titanium alloys High-strength X Not recommended Comments $\label{thm:continuous} \textbf{Suitable for extremely difficult-to-machine materials. Particularly suitable}$ for helical broaching of gears. High performance due to active sulfur. Low drag-out due to low viscosity. Cost-optimized product with high performance. Based on GTL with low evaporation, minimal drag-out, and high flash point. Universal product approved for medical technology (cytotoxicity tested according to EN ISO 10993-1, -5, -12). High performance by active sulphur. Long practical experience. Universal product based on synthetic esters. Characterized by high performance and skin compatibility. Universal product based on synthetic esters. Suitable when higher viscosity than PLANTOCUT 22 AC is required. New development of ECOCUT 615 LE based on sustainable raw materials with improved PCF value. Particularly suitable for thread cutting. Multi-purpose oil that can be used as cutting oil and hydraulic oil. Meets the requirements of HLP hydraulic oil DIN 51524 Part 2. Multi-purpose oil that can be used as cutting oil and hydraulic oil. Meets the requirements of HLP hydraulic oil DIN 51524 Part 2. New development of ECOCUT HFN 16 LE based on sustainable raw materials with improved PCF value. New development of ECOCUT HFN 10 LE based on sustainable raw materials Particularly suitable for honing, lapping, and grinding. Developed for carbide tool grinding. Prevents cobalt leaching. $\label{particularly} \mbox{ Particularly suitable for high-speed grinding. Recommended for carbide}$ and HSS materials. Specifically developed for HSS tool grinding. Low-viscosity oil based on aromatic-free hydrocarbons. Can also be used as EDM oil.

Application

*see page 9

Complete Fluid Solutions

Intelligent solutions for complex processes







Premium machining and grinding



Material (soft to hard)



Well suited for superfinishing, honing, and grinding.





Over 30 Years of Experience in MQL Technology

With the ECOCUT MIKRO and PLANTO MIKRO product lines, FUCHS offers specially developed lubricants for Minimum Quantity Lubrication (MQL).

Proven Technology

MQL uses specially formulated lubricants based on ester oils or fatty alcohols. These ensure precise lubrication with minimal consumption – almost without leaving any residue on the workpiece.

| Rey | Suitable | Suitable | State |

ECOCUT MIKRO (Based on Fatty Alcohols)

- Effective lubrication performance
- Easily evaporates ideal for dry workpiece surfaces
- Light cooling effect

PLANTO MIKRO (Based on Ester Oils)

- Excellent lubrication performance
- High boiling range and flash point
- Also available in low-mist variants ideal for open systems

Reliable in Practice

Both product lines are approved by leading MQL equipment manufacturers and are characterized by the following features:

- Excellent sprayability
- Optimal droplet formation
- Odor-neutral
- Proven in long-term industrial use

Further information on products for minimum quantity lubrication (MQL) can be found via the QR code.



Comments

Proven, field-tested product based on fatty alcohol for medium-duty machining of numerous materials. Approved for use in the automotive and aerospace industries, as well as by manufacturers of machine tools and spray systems.

Further development of ECOCUT MIKRO PLUS 20 with a sustainability approach through the use of fatty alcohol based on renewable raw materials and with an improved washing effect.

Universal ester-based product for medium machining of almost all materials.

High-performance ester-based product for heavy-duty machining and high tool life requirements.

Special product designed to leave no residues on the workpiece after machining.

Technology Partnership with DMG MORI

First-fill high performance lubricants

High performance machining technology requires high performance lubricants. FUCHS have partnered with DMG MORI, ensuring only the best possible fully approved lubricants are used as first-fill and aftermarket.

Further information on our technology partnership can be found via this QR code.





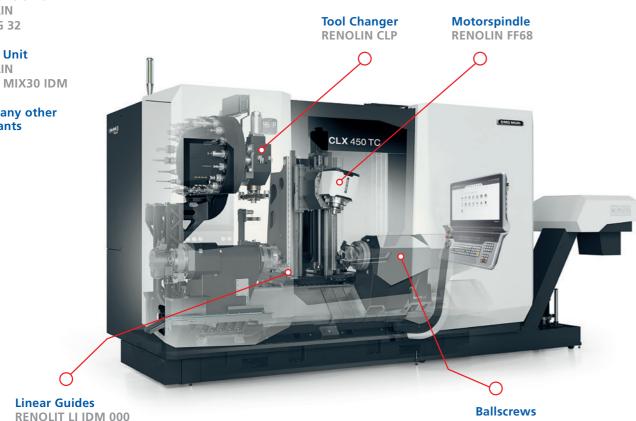
RENOLIT LI IDM 000

First Fill solutions for DMG MORI

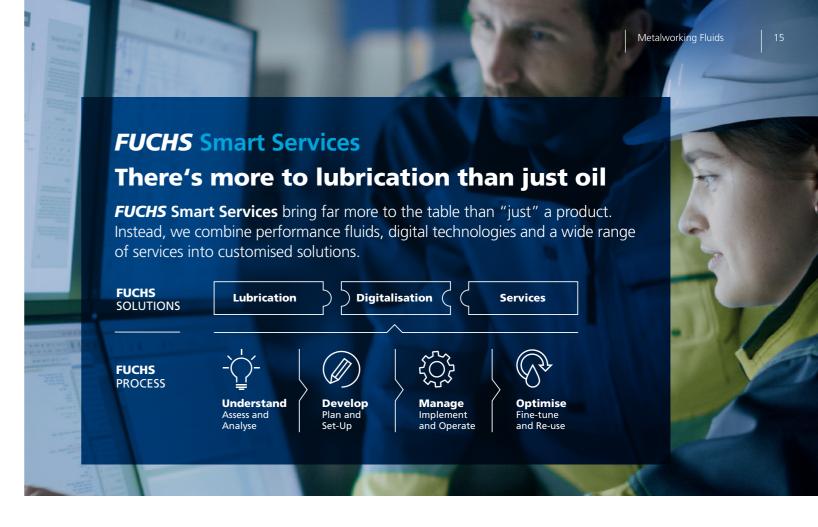
- Metalworking Fluids
 - ECOCOOL
- ECOCUT
- O Hydraulic Unit **RENOLIN** B10 VG 32

Chiller Unit RENOLIN MPG 5 MIX30 IDM

> And many other Lubricants



For a precise selection guide, please contact: export-flg@fuchs.com



Fluid Management

FUCHS' Fluid Management is a complete lubricant supply and management programme which is unique and flexible to meet the requirements of your business. It is a carefully managed, structured system of operations in which all aspects and consequences of fluid usage are managed, monitored and assessed.

Expert support

We provide expert support in the areas of fluid supply, distribution, monitoring, maintenance, assessment and disposal, allowing our customers to concentrate on what they know best. Full technical support is provided by a dedicated team of production fluid specialists, complemented by extensive laboratory facilities.

FluidsConnect: Easy to handle, Efficient monitoring

With FluidsConnect from FUCHS Smart Services, we offer a database solution that has been specially developed for lubricant management - in full collaboration with the customer. The KPIs for the use of lubricants in your plant are displayed in standard reports. This enables structured monitoring of the status and progress made possible.







Innovative lubricants need experienced application engineers

Every lubricant change should be preceded by expert consultation on the application in question. Only then the best lubricant system can be selected. Experienced FUCHS engineers will be glad to advise on products for the application in question and also on our full range of lubricants.



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