Lubricant solutions for the medical technology
2026



LUBRICANTS.
TECHNOLOGY.
PEOPLE.

FUCHS

MOVING YOUR WORLD



We don't just develop lubricants. For highly complex challenges in a wide range of industries, we develop innovative lubricant solutions that enable the mobility of tomorrow. Our goal: to keep our customers' world in motion. Efficient, sustainable, reliable. Today and tomorrow.

What can we move for you?



FUCHS Medical:
specialized expertise,
backed by a global network

Facts and figures

BOSS Lubricants – Your central contact for Medical

- EMEA center of competence for medical lubricants within the FUCHS Group
- Central coordination of EMEA medical customer requirements
- Application expertise and customized lubrication solutions
- Access to the global FUCHS portfolio and technical network

BOSS Lubricants is the central contact for Medical lubrication solutions within the FUCHS network in EMEA, combining specialized application expertise with access to the broad technologies, resources and international presence of the FUCHS Group.

As part of FUCHS, BOSS can offer much more than an individual lubricant solution. Depending on the application and customer requirements, the expertise and product portfolios of **FUCHS LUBRICANTS GERMANY and Nye Lubricants** are brought together to provide a comprehensive offering for the Medical industry, covering the entire journey **from manufacturing to the medical device.**

FUCHS LUBRICANTS GERMANY contributes extensive experience in the manufacturing of medical components, instruments and implants. Its portfolio includes high-performance metalworking fluids, process fluids, cleaning solutions and corrosion protection products, supported by strong application engineering, technical consulting and research capabilities.

Nye Lubricants complements this manufacturing expertise with highly specialized synthetic oils and greases for precision components and demanding medical-device applications. Its technologies address applications where reliability, material compatibility, long-term performance and precise lubrication are critical.

At the center, **BOSS Lubricants combines these capabilities with its dedicated Medical application expertise**, supporting customers in the selection, development and implementation of lubrication solutions for specialized medical applications. BOSS acts as the customer's central interface, while drawing on the relevant expertise from across the FUCHS organization whenever required.

Together, these capabilities create **one comprehensive FUCHS Medical portfolio**, supported by a global organization with around 6,000 employees in more than 50 countries. Customers benefit from specialist Medical know-how combined with global R&D, application engineering, manufacturing capabilities and local technical support.

Whether the challenge lies in **manufacturing a medical component or ensuring reliable lubrication within the finished device**, FUCHS brings together the technologies and expertise required to develop the right solution.

Global reach. Specialized expertise. One FUCHS Medical portfolio.

MOVING YOUR WORLD

SPECIAL LUBRICANTS FOR MEDICAL TECHNOLOGY

In medical technology, materials and surfaces must meet not only wide-ranging but also the highest and most exacting demands.

Already in the manufacturing process each step in the production chain is monitored and tracked in accordance with the strictest safety regulations and quality requirements so as to rule out harm to patient or user in advance.

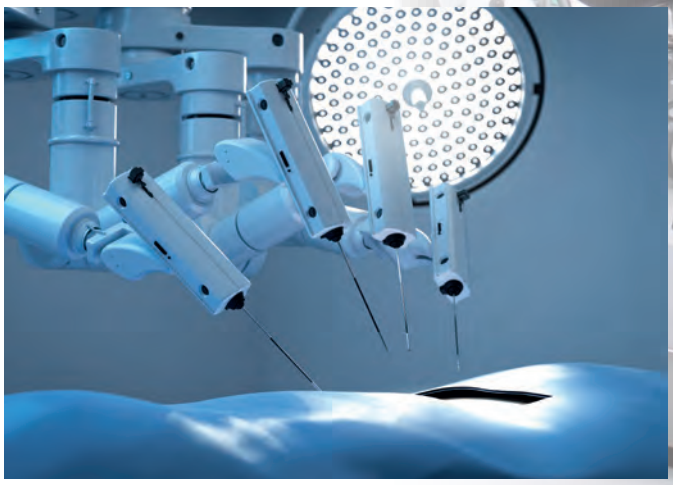
Special mechanical and electromechanical devices designed to perform complex tasks require designers and users to constantly come up with new solution approaches.

Our products perform in a vast array of critical applications including:

- Medical devices
- Medical device manufacturing
- Drug delivery devices
- Diagnostic equipment & instrumentation
- Robotic automation
- Assembly processes
- Powered surgical tools & equipment









Benefits of the FUCHS product portfolio

FUCHS not only has a high-performance lubricant program, but also the necessary process expertise to meet the specific challenges and regulations.

Your Trusted Partner for Medical Lubrication:

- Special formulas for medical use only
- A wide product portfolio: from cutting oil to operating lubricant
- Highest quality standards and relevant QM certifications
- Tested compatibility and biocompatibility, regular and batch-related, by recognised independent test institutes
- New developments with test phases in collaboration with the design engineers
- Risk-based quality approach and reduction of risk to patients
- Competent application support
- Global advice and availability

Examples of performance benefits include:

- Extending operating life
- Broadening of operating temperature range
- Controlling or damping of energy release
- Eliminating undesirable noise
- Optimizing haptic feedback
- Sealing against dirt, debris or moisture in the environment
- Reducing force required during assembly or connection
- Mitigating the effect of tolerance stacking
- Consideration and suitability for sterilisation processes

Our medical team will also assist you with lubricant-related regulatory issues (MDR, FDA, etc.) and cooperation with registration authorities such as information on creating your master files, conformity declarations, etc.



Source: BVMed



Source: BVMed



A key factor is the above-mentioned cytotoxicity (**ISO 10993-5**) of lubricants and functional fluids, which can be specifically extended to include tests for irritation and sensitisation potential (**ISO 10993-10/23**), systemic toxicity (**ISO 10993-11**) and interaction with blood (**ISO 10993-4**).

BOSS Lubricants and Nye Lubricants are adding value to breakthroughs in medical technology every day. We provide a high level of support, augmented with a robust quality management system, **ISO 13485** certification, and an appreciation of the need for innovation as well as risk reduction.

Biocompatibility/Cytotoxicity

Lubricants must fulfil the highest demands when used in medical applications. E.g. they have to be non-cytotoxic, as cytotoxicity describes the potential of a substance or material, such as a lubricant, to cause cell damage or to impair cell functions.To evaluate these substances or possible impurities, in vitro laboratory tests are performed on living cells.

To prevent damage to cells, biocompatibility must be ensured in both the invasive and the non-invasive use of devices and materials. Especially in the manufacture of implants, residues from the production process that are not totally removed in final cleansing can lead to the most serious complications resulting from rejection of the implant by the patient.

In order to rule out any conceivable risk, FUCHS manufactures for such exacting tasks only biocompatible lubricants, the compatibilities of which are constantly proven by independent testing institutes. Standardised test procedures confirm biocompatibility subject to use.



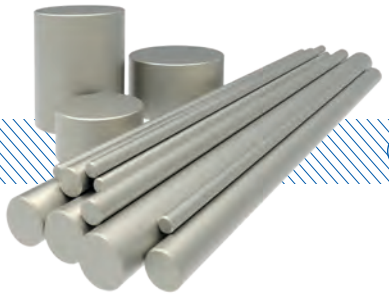
BOSS Lubricants and Nye Lubricants

Manufacturing process of medical products

The only way to guarantee consistently high quality of medical products is to understand the entire process and the matched auxiliary materials used during machining and to employ reliable quality control.

Irrespective of this, each new process or process change must pass the necessary tests (for example cytotoxicity test, etc.) and be both checked and validated in its entirety.

Raw material



Metalworking
ECOCOOL/ECOCUT

- turning
- milling
- drilling
- thread cutting
- grinding
- polishing

Corundom blasting

Cleaning
RENOCLEAN MEDIC CLEAN



Coating

Laser printing
MEDICAL FLUID

Every product gets its own serial number. This ensures full traceability if necessary.

Passivation

Finished part



Source: BVMed

FUCHS offers special cleaners for optimum intermediate and final cleaning of medical implants and instruments. These have been designed specifically for use following processing with FUCHS machining cleaners.

BOSS Lubricants

Brand name	Properties	Type
BOSS-Fluorine® greases	Lubrication of dental and surgical handpieces, bearings and guideways of surgical robots, oxygen valves, respirators, inhalators and injection systems, infusion pumps, anaesthetic systems, ...	Perfluorinated polyether
BOSS-Fluorine® oils	Lubrication of needles, springs, high-speed/precision spindles and bearings, vacuum pumps, drive and guideway lubrication of ophthalmological, fine and laser-based surgical robots, diabetes management systems, glucometry instruments, ventilators, endoscopy instruments, ...	Perfluorinated polyether
Medical Grease	Lubrication of endoscopes, high-speed/precision bearings, electronic plug connectors, linear guideways, drives in clean rooms, damping of springs, adjusting screws and opening mechanisms, ...	Synthetic hydrocarbons, ester or water
Medical Fluid	Lubrication of endoscopes, plain and roller bearings, gears of pumps and instruments, ...	Synthetic hydrocarbons, ester or water
Medical Grease S	Lubrication of needles, springs, damping of adjusting screws and opening mechanisms, ...	Silicone oils
Medical Fluid S	Lubrication of seals and closures, damping of springs and opening mechanisms ...	Silicone oils
Cut Medic ECOCUT MED	Metal processing fluids for medical alloys	Synthetic hydrocarbons, GTL oils, medical white oils
Medic Clean	Cleaning implants, endoscopes, instruments ...	Synthetic hydrocarbons, water



FUCHS Lubricants



Water miscible cooling lubricants

Brand name	Properties	Application
ECOCOOL TN 2525 HP-BFH	Water-miscible, high lubricity, boron-free, free of formaldehyde.	For high pressure applications > 100 bar.
ECOCOOL GLOBAL 1000		
ECOCOOL NI 1000		

Neat Cutting Oils

Brand name	Properties	Application
ECOCUT 7520 LE-M	Low misting and evaporation (improved workplace hygiene), non-water soluble, non-cytotoxic, generates excellent surface finishes, long tool life.	Especially suitable for difficult-to-machine materials such as titanium, cobalt-chrome alloys, chrome-nickel alloys and other high-alloy steels. For deep-hole drilling, broaching and thread cutting.
PLANTOCUT 10 SR	Synthetic esters based on harvestable raw materials, low water pollution potential, non-water soluble, non-cytotoxic, almost fully biodegradable. Optimized wetting, cooling and flushing, minimal workplace pollution, very low evaporation losses and very high flashpoint.	Universally-applicable, especially for the machining and grinding of difficult-to-machine materials (titanium, cobalt, stainless steels.
ECOCUT HS	Based on semi-synthetic, aromatic-free hydrocarbons, non-water soluble, non-cytotoxic, good flushing, low foaming, good corrosion protection, low odour.	Especially suitable for the high-speed grinding of CoCr steels and ceramics. Also for other grinding operations and honing.
ECOCUT FE	Based on aromatic-free hydrocarbons, non-water soluble, non-cytotoxic, low viscosity, outstanding surface finishes, very long product life, good flushing, extremely low evaporation, minimal workplace pollution.	Optimized for tool grinding, superfinishing and the fine grinding of ceramics.

Multifunctional Oils

Brand name	Properties	Application
UNIFLUID 32	Multipurpose oils based on synthetic esters, non-cytotoxic, rapidly biodegradable, non-water polluting, high flash-point, can be recycled.	High cutting and machining performance, for machining and hydraulics.
UNIFLUID 10	Multipurpose oils based on synthetic esters, non-cytotoxic, rapidly biodegradable, non-water polluting, high flash-point, high-pressure stable, homogeneous recycling possible.	For machining and machine lubrication.

Magnesium Machining

Brand name	Properties	Application
ECOCOOL 2516 MG-REIHE	Water-miscible, good emulsion stability.	For magnesium machining.
ECOCUT HFN 16 LE	Non-water-miscible, based on mineral oil.	For magnesium machining.
UNIFLUID 10	Multipurpose oils based on synthetic esters, high pressure suitability.	For machining and machine lubrication, magnesium machining.

Minimum quantity lubrication (MQL)

Brand name	Properties	Application
PLANTO MIKRO UNI	Synthetic esters based on harvestable raw materials, low water pollution potential.	Minimum quantity lubrication.
ECOCUT MIKRO PLUS 20	Based on fatty alcohols, good cooling, no residues.	Minimum quantity lubrication.

Cleaners for optimum process safety

Brand name	pH/FP	Intermediate cleaning	Final cleaning	Description
RENOCLEAN FDC 4001	12.1	++	+	High-alkaline, phosphate-based cleaner for cleaning medical components in dipping and ultrasonic systems.
RENOCLEAN MTA 2001	7.7	++	++	Neutral, phosphate-based builder, free of surfactants, silicates and borates; suitable for dipping, ultrasonic and spray cleaning systems when used in connection with corresponding surfactant.
RENOCLEAN MTA 4001	10.2	++	++	Medium-alkaline, phosphate-based builder, free of surfactants, silicates and borates; suitable for dipping, ultrasonic and spray cleaning systems when used in connection with corresponding surfactant.
RENOCLEAN FTA 4001	12.9	++	++	High-alkaline, phosphate-free builder, suitable for steel, cast materials, titanium; suitable for dipping, ultrasonic and spray cleaning systems when used in connection with corresponding surfactant.
RENOCLEAN TENSID 161	8.6	++	++	Surfactant combination with demulsifying properties for pressure-flooding, dipping, ultrasonic and, in some cases, also spraying applications.
RENOCLEAN MTT 2003	7.2	++	++	Surfactant combination with demulsifying properties for spray, dipping, ultrasonic and spraying applications.
RENOCLEAN MTS 7001	≥ 61 °C	+	++	Modified alcohol, predominantly for final/fine cleaning.
RENOCLEAN SPEZIAL 2000	10.9	--	--	Cleaners for cleaning metal and plastic surfaces, as well as hall and workshop floors.

++ suitable + suitable after test – not recommended -- other application

NYE Lubricants

Brand name	Properties	Type
NyeMed® 7325	UV-dyed, high-viscosity gel or grease with a narrow viscosity specification.	Silicone
NyeMed® 7364	Extremely stiff, tacky, very high viscosity gel or grease.	Synthetic Hydrocarbon
NyeMed® 7560	UV-dyed, medium-viscosity, clear gel or grease. Applications range from mild damping to protection of electrical contacts and connectors.	Synthetic Hydrocarbon
NyeMed® 7492	UV-dyed, low-viscosity gel or grease with high affinity for metal surfaces. Typical applications might include high-speed bearings, switches, etc.	Ester
NyeMed® 7630	Medium viscosity gel or grease that excels at high-speed and high-temperature applications, providing corrosion and wear protection.	Synthetic Hydrocarbon
NyeMed® 7571	Medium viscosity gel or grease with high oxidative stability and lubricity, providing environmental protection for both plastic and metal substrates.	Perfluoropolyether
NyeMed® 7471	Inert fluid possessing a very wide temperature range (-70 to 250 °C), excellent oxidation resistance, high plastic/elastomer compatibility, and low solubility.	Perfluoropolyether
NyeMed® 7477	Medium viscosity inert gel or grease possessing a very wide temperature range (-70 to 250 °C), excellent oxidation resistance, high plastic/elastomer compatibility, and low solubility.	Perfluoropolyether

Private Label

Quality with recognition value

All our products, including made-to-measure new developments, can be manufactured for you under a private label – as a service product, a refill pack or for in-house production. We fill packs according to your instructions and supply them with your label, including certificates, safety datasheets, product datasheets etc.



GOOD-TO-KNOW

Learn more about our partner portfolio for the medical technology industry.

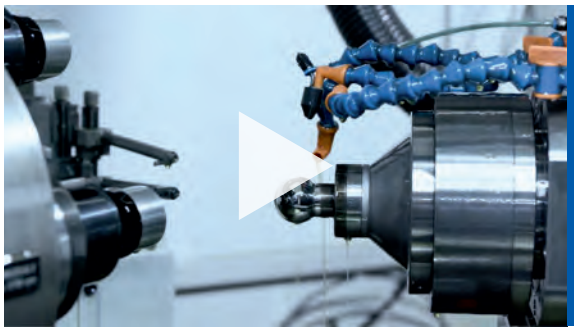
Boss Lubricants GmbH

Behind the Scenes of Premium Lubricant Production



FUCHS Lubricants GmbH

FUCHS Lubricants Smith & Nephew Facility Tuttlingen



Nye Lubricants

Case study Biocompatible Lubricants for Medical O-Rings



Notes



FUCHS Lubricants

Innovative lubricants need experienced application engineers

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



www.boss-oil.de/en/contact/

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BFN26M0001 11/2026