



Rail Lubricants



Lubricants for rail application

BECHEM – Lubrication solutions for industry

As the oldest German manufacturer of industrial lubricants, BECHEM today is one of the leading producers of high-quality special lubricants and metal working fluids.











BECHEM products convince by innovative formulations in the most diverse of industrial applications – in machining and forming metal working processes, in coating technology and as for-life lubricants in various technical components.

A strong network of distributors and several national and international production sites ensure that BECHEM products are readily available worldwide.












Tomorrow's technologies. Today.

PICTOGRAMS

APPLICATIONS



- Roller bearings 
- Plain bearings 
- Chains 
- Thread lubrication 
- Electrical contacts 
- Buffer plate 
- Wheel flanges 
- Switchplates 
- Rails 
- Automotive industry 

PROPERTIES

- High temperatures 
- Low temperatures 
- High Loads 
- High speed 
- Resistant to water 
- Noise damping 
- Food grade/
Pharmaceutical technology 
- UV tracer 
- Compatible with plastics 
- Corrosion protection 
- Biodegradable 

Environmentally compatible lubricants for rail systems

Lubricants for rail-bound transport systems often have direct contact with the environment. The environmentally friendly, readily biodegradable lubricants for the rail system by BECHEM fulfil and even considerably exceed legal requirements, thus ensuring permanently trouble-free and safe operation of the rail networks. The lubricants are optimally adjusted to the various requirements to allow worldwide application, such as low temperature behaviour, sprayability, centrifugal characteristics, and pressure stability. BECHEM railway lubricants are used in such components as wheel flanges, switches or rails.

PRODUCT	Base oil	Thickener	NLGI-grade	Base oil viscosity [mm ² /s] at 40 °C / 100 °C		Service temperature range [°C] ¹⁾	Applications	Properties
				40 °C	100 °C			
BECHEM Ecorail 2001 Plus 	Synthetic oil combination	Gel	-	11 3	-30	+80	Switchplate	Switch plate lubricant, readily biodegradable according to OECD 301 C, medium adhesion, SNCF approval No. IEM 05 004, excellent sprayability, contains light-colored solid lubricants
BECHEM Ecorail 2002 	Synthetic oil combination	Gel	-	17 4	-30	+80	Switchplate	Switch lubricant, readily biodegradable according to OECD 301 C, good adhesion, oxidation and UV resistant, contains light-coloured solid lubricants
BECHEM Ecorail 2009 	Ester	Bentonite	000*	46 9	-30	+80	Switchplate	Switch lubricant, readily biodegradable according to OECD 301 B, excellent adhesion, contains light-coloured solid lubricants
BECHEM Ecorail 2012 	Synthetic oil combination	Lithium-Calcium-Soap	000*	20 6	-30	+80	Switchplate	Switch grease, readily biodegradable according to OECD 301 B, very good adhesion even for highspeed railways, for all climatic conditions, contains solid lubricants, approvals: DB FSF 519 759 (04)
BECHEM Ecorail 2016 	Synthetic oil combination	Lithium-Calcium-Soap	000*	20 6	-30	+80	Switchplate	Switch grease, readily biodegradable according to OECD 301 B, very good adhesion even for highspeed railways, for all climatic conditions, contains solid lubricants, approval: SNCF MTP 17293
BECHEM Ecorail 5501 	Ester	Lithium-Calcium-Soap	1	110 14	-55	+120	Rail	Lubrication of rail systems, readily biodegradable according to OECD 301 B, contains light-colored solid lubricants and dewatering additives, high absorption of pressure and shock loads, good adhesion, also available in NLGI-grade 2
BECHEM Ecorail 8000 	Synthetic ester	Lithium soap	00-000*	50 9	-30	+80	Wheel flange	Wheel flange lubricant, readily biodegradable according to CEC L-33-A-93, without solid lubricants, resistant to oxidation, DB Material No. 526 234 (SSL-3)
BECHEM Ecorail 8200 	Synthetic oil combination	Lithium-Calcium-Soap	00	35 7,5	-40	+100	Wheel flange	Wheel flange lubrication, readily biodegradable according to OECD 301 B, reliable corrosion, outstanding wear protection, high pressure accommodation capacity, good adhesion, high proportion of light-colored solid lubricants

^{*} Value indicates unworked penetration. ¹⁾ Value marked in grey indicates short term maximum temperature. All indications and values correspond to latest knowledge and do not represent any product specification.

User-friendly and environmentally compatible

BECHEM spray systems

Convenient and low-priced application technology is important for the user. The devices developed by BECHEM in collaboration with partner companies, are designed to meet the requirements of the different railway companies, thereby providing good comfort, stability and easy handling. In addition, they are equipped with safety quick-release locks that allow quick separation of the spray lance in case of a dangerous situation.



Spray system for the application of lubricants



Chassis and drives

Today, lubricating greases and pastes on chassis and drives are exposed to increasing loads. BECHEM products are field-proven, extremely reliable, thereby providing an absolutely perfect interaction of all components.

In order to meet global lubrication requirements of the railway systems already during the product development process, BECHEM has its own test benches, e.g. for wheel flange lubrication. In combination with climatic chambers in the BECHEM technical centre, we are able to create operating conditions ranging from arctic to subtropical conditions in order to examine and develop lubricants that comply exactly with the requirements of our customers.

» Lubricants are developed in accordance with customer specifications. «



Test bench for wheel flange lubrication

	PRODUCT	PRODUCT					Applications	Properties	
		Base oil	Thickener	NLGI-grade	Base oil viscosity [mm ² /s] at 40 °C/100 °C	Service temperature range [°C]			
Lubricating greases	Beruplex LI EP 2 🔧🔧🔧🔧🔧	Mineral oil	Lithium complex soap	2	180 16	-30	+150	Wheelset bearing, cylinder and tapered roller bearing, electro motor bearing	Long-term EP grease, excellent corrosion protection and wear, excellent pumpability, even under shock load, protection against high temperatures and moisture
	BECHEM High-Lub LT 2 EP 🔧🔧🔧🔧🔧	Mineral oil	Lithium soap	2	180 15	-30	+140	Wheelset bearing, cylinder and tapered roller bearing	Multi-purpose EP-grease, wide application temperature range, excellent water resistance, excellent corrosion and wear protection, excellent pumpability in central lubrication systems
	BECHEM High-Lub FA 50 MO 🔧🔧🔧🔧🔧	Mineral oil	Lithium-Calcium-Soap	2	1200 47	-20	+120	Gear coupling	Long-life lubricant for high to very high loads, excellent water resistance, excellent protection against corrosion, contains high-viscous mineral base oil and EP-additives, also available in NLGI-grade 1
	Berutox M 21 EPK 🔧🔧🔧🔧🔧	Mineral oil	Polyurea	1-2	490 32	-20	+160	Wheelset bearing, housing screw connection, brake, bolt, bushes, slide bearing	Multi-purpose grease for plastic/metal slide pairings, high corrosion and wear protection, good adhesion, resistant to oxidation, water, and steam, water repellent, EP-properties
	BECHEM Ecorail 8000 🔧🔧🔧🔧🔧	Synthetic ester	Lithium soap	00-000*	50 9	-30	+80	Wheel flange	Wheel flange lubricant, readily biodegradable according to CEC L-33-A-93, without solid lubricants, resistant to oxidation, DB Material No. 526 234 (SSL-3)
	BECHEM Ecorail 8200 🔧🔧🔧🔧🔧	Synthetic oil combination	Lithium-Calcium-Soap	00	35 7,5	-40	+100	Wheel flange	Wheel flange lubrication, readily biodegradable according to OECD 301 B, reliable corrosion, outstanding wear protection, high pressure accommodation capacity, good adhesion, high proportion of light-colored solid lubricants
Pastes	Berulub 932 Antiseize Paste 🔧🔧🔧🔧🔧	Med. white oil	Gel	1*	70 9	-40	+1400	Wheelset bearing, housing screw connection, brake, bolt, bushes, slide bearing	Universal screw paste, prevents cold welding and fretting corrosion, metal-free, light-colored solid lubricants, resistant to water, many acids and lyes, H1 registered
	Berulub Copper Paste 🔧🔧🔧🔧🔧	Mineral oil	Aluminium complex soap	1	270 16	-20	+1100	Brake, slide bearing, rods, guidings, screw connections, bogies, screws and connections	High-temperature antiseize paste with copper particles and graphite, excellent adhesion, protects against corrosion and fretting corrosion

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Connections and maintenance

For the lubrication of connections, such as screw couplings, buffer heads or air compressors, reliable high performance lubricants are indispensable. BECHEM products withstand both the enormous pressure during the shunting operation and the high forces while driving. For these demanding conditions, BECHEM has developed railway lubricants that provide the required safety, but also ensure a comfortable ride.

	PRODUCT							Applications	Properties
	Base oil	Thickener	NLGI-grade	Base oil viscosity [mm ² /s] at 40 °C/100 °C	Service temperature range [°C]				
Lubricating greases	BECHEM Ecorail 7010 	Synthetic oil combination	Lithium-Calcium-Soap	0	20 6	-30	+100	Buffer plate, slide, guiding, screw coupling	Light-coloured buffer disc and high-performance multipurpose grease for locomotives and wagons, readily biodegradable according to CEC L-33-A-93, high load carrying capacity, contains light-coloured solid lubricants
	Berulub FG-H 2 SL 	Synthetic hydrocarbon	Special Calcium complex soap	2	50 8	-45	+160 +200	Automatic coupling	High-performance lubricant with good adhesion and sealing qualities, resistant to water and ageing, reliable protection against corrosion, suitable for central lubrication systems, H1 registered, Halal and Kosher certified, certified according to ISO 21469
	Berulub FG-H 2 EP 	Polyalpha-olefin (PAO)	Special Calcium complex soap	1-2	150 18,5	-40	+160	Automatic coupling	Universal lubricant, high load-carrying properties, good adhesion and sealing effect, reliable corrosion protection and wear, resistant to ageing, water, disinfectants and cleaners, H1 registered, halal and kosher certified, certified according to ISO 21469
Lubricating oils	Berusynth 46 H1 	Polyalpha-olefin (PAO)	-	-	46 8	-	-	Air compressor, fans, hydraulics, gears, circular lubrication	High-performance oil for circulation lubrication and for transport chains, effective corrosion and wear protection, neutral to conventional seals and paints, odorless and taste, H1 registered, halal and kosher certified, certified according to ISO 21469
	Berusynth 68 H1 	Polyalpha-olefin (PAO)	-	-	68 11	-	-	Air compressor, fans, hydraulics, gears, circular lubrication	High-performance oil for circulation lubrication and for transport chains, effective corrosion and wear protection, neutral to conventional seals and paints, odorless and taste, H1 registered, halal and kosher certified, certified according to ISO 21469
Service products	Beruclean ECO 	Polyalpha-olefin (PAO)	-	-	-	-	-		Universal cold cleaner, free of aromatic hydrocarbons, virtually odorless, strong dissolution effect, good cleaning effect, quickly biodegradable according to OECD 301 F, A7, H1 registered, Halal and Kosher certified, approval: SNCF MTP No. 17 0261
	Berulub ECO GD 40 Spray 	Ester	-	-	1,3	-30	+90		Multifunctional spray, acid and resin free, almost no smell, suitable as rust solvent, anti-corrosion, maintenance product, water repellent, good creeping properties, readily biodegradable (OECD 301 C)

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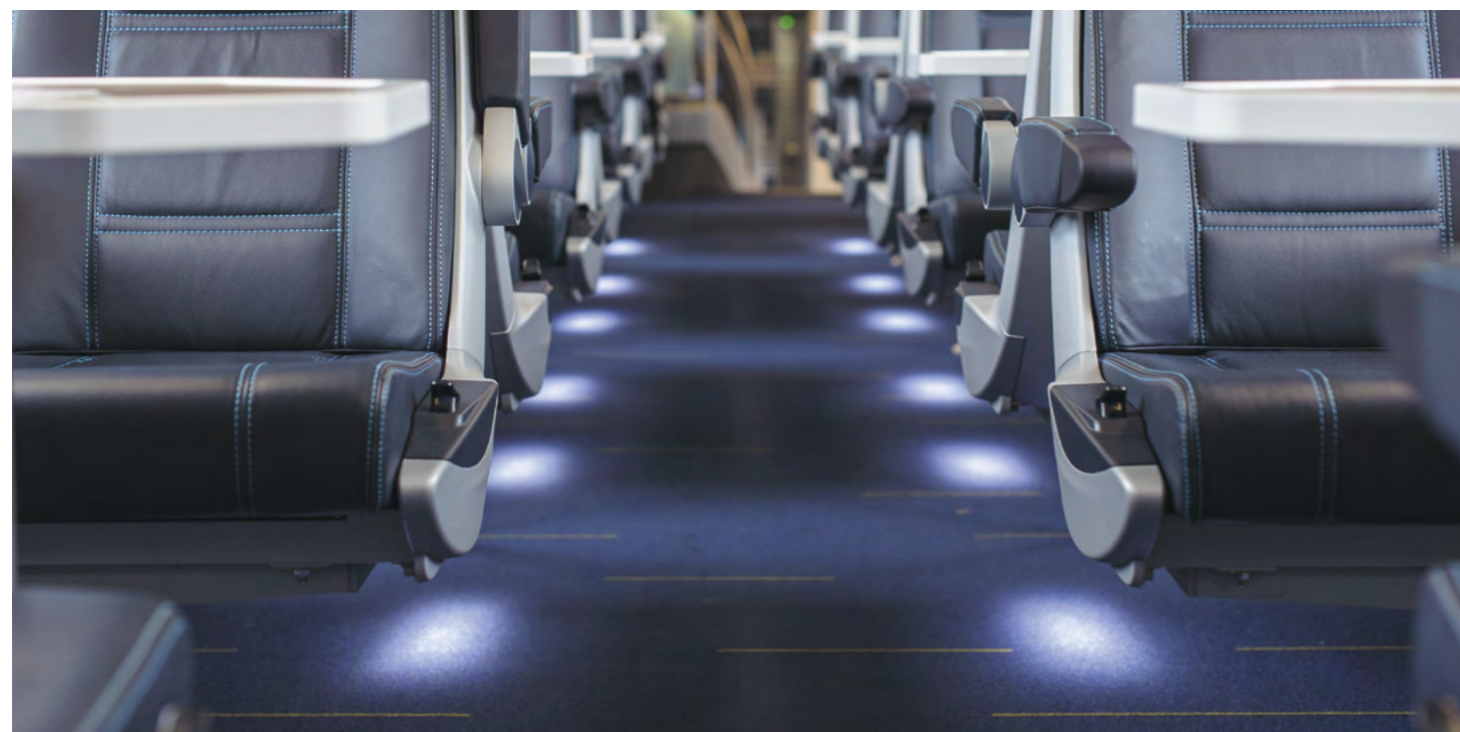
Vehicle and interior components

Based on their vibration-reducing properties and optimized friction coefficient, BECHEM lubricants allow monitored, reproducible movement processes in all interior components, such as seat and table systems, door panels, actuators and switch systems.

BECHEM products thus make a large contribution to the functionality and the haptics of interior components and sustainably upgrade the respective construction parts and vehicles. Special products, designed for interfering noise reduction, ensure significant improvement of driving comfort.

	PRODUCT							Applications	Properties
	Base oil	Thickener	NLGI-grade	Base oil viscosity [mm ² /s] at 40 °C / 100 °C	Service temperature range [°C]				
Lubricating greases	Berutox FB 22 🔧 ⚙️ 🚗 🚚	Polyalpha-olefin (PAO)	Barium complex soap	2	50 8	-40	+180 +200	Door, bearing surface, locking systems, springs, locking slides, clock springs	For long-term lubrication at high speeds, good consistency-temperature-behavior, excellent water resistance, excellent corrosion and wear protection, good pumpability
	Berulub KR-EP 2 🔧 ⚙️ 🚗 🚚	Synthetic oil combination	Lithium soap	2	15 4	-50	+120	Door, linear guiding, drive spindle	Low-temperature and high-speed lubricant, low start-up resistance at low temperatures, protects against corrosion and moisture
	Beruglide L 🔧 ⚙️ 🚗 🚚	Perfluoropolyether (PFPE)	Polytetrafluoroethylene (PTFE)	1-2*	160 16	-40	+190	Door, seals	Fully synthetic special grease for plastic and polymer materials, excellent resistance to oxidation/aggressive media, good noise damping properties, contains PTFE, H1 registered, halal and kosher certified, certified according to ISO 21469
	Berulub FK 164-2 🔧 ⚙️ 🚗 🚚	Perfluoropolyether (PFPE)	Polytetrafluoroethylene (PTFE)	2	150 45	-60	+250	Door, seals	For the material combinations plastic/plastic, metal/plastic, very good elastomer compatibility, excellent low-temperature and noise damping properties, available with UV tracer, H1 registered, halal and kosher certified
	Berutox VPT 54-2 🔧 ⚙️ 🚗 🚚	Perfluoropolyether (PFPE)	Polytetrafluoroethylene (PTFE)	2	210 20	-30	+230	Noise damping, seats, folding tables, rubbish bins, back rests, control lever, etc.	Long-life lubricating grease, resistant to thermal and chemical decomposition, excellent oxidation stability, excellent compatibility with plastics, also available in NLGI-grade 1, H1 registered, halal and kosher certified
Spray	Berulub ND Spray 🔧 ⚙️ 🚗 🚚	Perfluoropolyether (PFPE)	-	-	160 16	-40	+200	Noise damping, seats, folding tables, rubbish bins, back rests, control lever, etc.	Fully synthetic special spray for noise damping in automotive applications, good plastic and elastomer compatibility, odorless, high thermal and oxidation resistance
Anti-friction coatings	Berucoat AK 978 🔧 ⚙️ 🚗 🚚	Organ. binder	-	-	-	-40	+80	Noise damping	Water based interior AF-coating, prevents stick-slip and disturbing noises, highly compatible with plastics, transparent, free of formaldehyde, with UV-tracer
	Berucoat FX 876 🔧 ⚙️ 🚗 🚚	Organ. binder	-	-	-	-40	+80	Plastics, elastomers, leather, tissue	Long-life elastomer coating, water based, two-component coating, noise damping, reduction of friction, good water resistance, wear resistant
	Berucoat AK 376 🔧 ⚙️ 🚗 🚚	Organ. binder	-	-	-	-40	+120	Plastics, elastomers, leather, tissue	Long-life lubricant for plastic and/or steel material combinations, no dust adsorption, prevents stick-slip, good protection against corrosion

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Lubrication solutions for industry



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