



Rail Lubricants



Lubricants for rail application

BECHEM – Lubrication solutions for industry

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











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

A powerful 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.










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

	PRODUCT		Base oil	Thickener	NLGI-grade	Base oil viscosity [mm²/s] at 40 °C / 100 °C		Service temperature range [°C] ¹⁾	Applications	Properties
Lubricants		BECHEM Ecorail EES 46	Ester	-	-	46 9	-30	+90 +120	Switchplate	Switch lubricating oil, oxidation and UV resistant, readily biodegradable according to OECD 301 C, DB Material No. 000 001, ideal for tramways
		BECHEM Ecorail 2001 Plus	Synthetic oil combination	Gel	-	11 3	-30	+80	Switchplate	Switch lubricant, readily biodegradable according to OECD 301 C, medium adhesion, SNCF approval No. IEM 05 004, excellent sprayability, contains light-coloured solid lubricants
		BECHEM Ecorail 2002	Synthetic oil combination	Gel	-	17 4	-30	+80	Switchplate	Switch lubricant, readily biodegradable according to OECD 301 C, medium 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 (4), SNCF CSC ER IM 1
		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
		BECHEM Ecorail 5501	Ester	Lithium/calcium soap	1	110 14	-55	+120	Rail	Lubrication of rail systems, readily biodegradable according to OECD 301 C, contains light-coloured solid lubricants, high absorption of pressure and shock loads, good adhesion
		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	-35	+100	Wheel flange	Wheel flange lubricant, readily biodegradable according to OECD 301 B, reliable corrosion and wear protection, very high load carrying capacity, good adhesion, high part of light 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



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	Base oil	Thickener	NLGI-grade	Base oil viscosity [mm²/s] at 40 °C / 100 °C	Service temperature range [°C] ¹⁾	Applications	Properties	
Lubricating greases	Berutemp HG 150 	Synthetic oil combination	Polyurea/Polytetrafluoroethylene (PTFE)	1–2	150 25	-50	+200	Traction motor bearings	Long-life lubricant, excellent protection against corrosion, noise damping, resistant to water, prevents stick-slip, suitable for plastic and metal/plastic material combinations, hybrid technology
	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-life lubricating grease, excellent wear and corrosion protection, resistant to vibrations and shock loads, high load-carrying capacity
	Beruplex LM 2 	Mineral oil	Lithium complex soap	2	210 16	-30	+140 +150	Wheelset bearing, cylinder and tapered roller bearing	Long-life lubricating grease for wheel bearings, effectively reduces friction and wear even at high pressure loads and temperatures, vibrations, centrifugal forces, humidity
	BECHEM High-Lub LT 2 EP 	Mineral oil	Lithium soap	2	180 15	-20	+140	Wheelset bearing, cylinder and tapered roller bearing	Multipurpose high-performance EP lubricating grease (OEM approval), allows extended re-lubrication intervals, very good corrosion and wear protection
	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	Suitable for plastic/metal friction partners at high pressure/shock loads and corrosive conditions, good adhesion, resistant to oxidation and water, water repellent
	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	-35	+100	Wheel flange	Wheel flange lubricant, readily biodegradable according to OECD 301 B, reliable corrosion and wear protection, very high load carrying capacity, good adhesion, high part of light-coloured 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	High-temperature paste for screw connections, prevents cold welding and fretting corrosion, resistant to hot and cold water as well as many acids and lyes, metal free, NSF-H1 certified
	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							
		Base oil	Thickener	NLGI-grade	Base oil viscosity [mm²/s]	at 40 °C / 100 °C	Service temperature range [°C] ¹⁾	Applications	Properties
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 oil	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, NSF-H1, Halal and Kosher certified
	Berulub FG-H 2 EP 	Synthetic oil	Special Calcium complex soap	1–2	150 18,5	-40	+160	Automatic coupling	High load carrying capacity, good adhesion and sealing qualities, resistant to water, cleaning agents and ageing, reliable protection against corrosion, NSF-H1, Halal and Kosher certified
Lubricating oils	Berusynth HC 46 	Polyalpha-olefin (PAO)	-	-	46	-		Air compressor, fans, hydraulics, gears, circular lubrication	High performance oil to lubricate machines, transport and drive chains, effective corrosion and wear protection, neutral towards conventional seals and paints, neutral in smell and taste
	Berusynth HC 68 	Polyalpha-olefin (PAO)	-	-	68	-		Air compressor, fans, hydraulics, gears, circular lubrication	High performance oil to lubricate machines, transport and drive chains, effective corrosion and wear protection, neutral towards conventional seals and paints, neutral in smell and taste
Service products	Beruclean ECO 	Polyalpha-olefin (PAO)	-	-	-	-			Universal cold cleaning agent, readily biodegradable acc. to OECD 301 F, removes oil and grease contaminations, waxes, resins, bitumen, tar, oil carbon, as well as uncured lacquers and paints, NSF H1, Halal and Kosher certified
	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 [mm²/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-life lubrication at high speeds, excellent consistency-temperature-behaviour, excellent corrosion and wear protection, excellent pumpability
	Berulub KR-EP 2 🔧🔧🔧🔧	Ester	Lithium soap	2	15 4	-50	+120	Door, linear guiding, drive spindle	Low-temperature and high-speed lubricant, low starting resistance at low temperatures, protects against corrosion and humidity
	Beruglide L 🔧🔧🔧🔧	Perfluoropolyether (PFPE)	Polytetrafluoroethylene (PTFE)	1-2*	160 16	-40	+190	Door, seals	Good noise damping properties, excellent compatibility with plastics and elastomer materials, good fogging behaviour, excellent oxidation resistance, NSF-H1, Halal and Kosher certified
	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, NSF-H1, 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, NSF-H1, 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 issues in automotive applications, good plastic and elastomer compatibility, neutral in smell, high thermal and oxidation stability
Anti-friction coatings	Berucoat AK 978 🔧🔧🔧🔧	Organ. binder	-	-	-	-40	+80	Noise damping	Water based interior AF-coating, prevents stick-slip and disturbing noises, e.g. squeak and rattle, highly compatible with plastics, transparent, free of formaldehyde
	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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