



SPECIAL LUBRICANTS & MAINTENANCE PRODUCTS

Food, Beverage and Pharmaceutical Industry

Setral – food safe and hygienically produced lubricants

Lubricants that enable food-safe production in industrialized processes are essential. In the food industry the high purity and sustainability of manufactured food products are of great importance. However, ensuring the food supply for the world's population requires reliable machinery, efficient processes, consistent maintenance schedules and food-safe maintenance products such as H1 lubricants.

These are challenging requirements for H1 lubricants since their use near food applications is prescribed according to standardized quality management systems in the food and pharmaceutical industry.

Especially the food industry is divided into many subsectors with different technical requirements like resistance to high humidity, extreme temperatures, aggressive media as well as cleaners and disinfectants.

- | | | |
|---------------|-------------|-----------------------------|
| ✓ Baked goods | ✓ Fish | ✓ Meat |
| ✓ Edible oils | ✓ Sweets | ✓ Chicken |
| ✓ Vegetables | ✓ Grains | ✓ Animal feed |
| ✓ Dairy | ✓ Packaging | ✓ Frozen food |
| ✓ Beverage | ✓ Fruits | ✓ Brewery |
| ✓ Agriculture | ✓ Sugar | ✓ Vegetarian and vegan food |

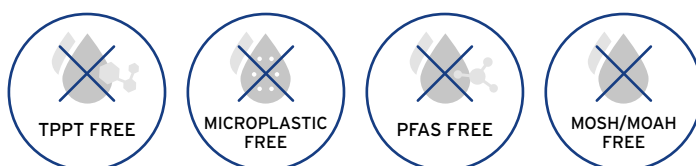
With more than 60 years of experience in the development and manufacture of specialty lubricants and assembly products, it is a matter of course for us to monitor constant changes in requirements and chemical regulations.



Our food grade portfolio with more than 100 specialty lubricants and maintenance products is reviewed and usually revised upon changing legal landscapes regarding raw materials like TPPT or PFAS.

Our food grade portfolio supports you with the following features:

- H1 and more
- Halal & Kosher certified
- Produced under a hygienic quality management system certified acc. to ISO 21469.
This requires the use of substances in accordance with standards like FDA (CFR) 21 §178.3570.
- Suited for the application on critical control points acc. to HACCP
- GMO-free formulation
- Without MOSH/ MOAH components in the formulation
- Allergen-free formulation acc. to 1169/2011/EU annex II
- PFAS and microplastic-free formulation
- Tested for sterility



Whether you need a single product or a comprehensive lubricant concept - setral® supports you from product selection to implementation during ongoing operations. In addition to our entire product portfolio for the food and pharmaceutical industries, we also support you with new or sensitive issues in these branches. **Find more on page 15.**

H1	Incidental food contact. Equipment with potential exposure of the lubricated part to food
H2	No food contact allowed. Only for lubrication points without food contact of the lubricant
3H	Release agents for baking tins, grillage, etc. with direct food contact
K1	Cleaner and degreaser in non-food processing areas without food contact
K3	Cleaner for adhesives in and around food processing areas without food contact

Your technology partner – find the right solution for your application

Our food grade portfolio covers following areas of applications:

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Gearboxes – OILS

PRODUCT	BASE OIL	V40 [mm ² /s]	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
MI-setral-GEAR ... FD series	Med. white oil	150 220 320 460	0 - +90 0 - +90 0 - +90 0 - +100	H1 Halal Kosher	H1 gear oil for the food and pharmaceutical industry	• Modern additives for optimum wear protection and high load carrying capacity • Low foaming • Good corrosion protection
SYN-setral-GEAR ... FD series	PAO	150 220 320 460 680	-40 - +150 -40 - +150 -35 - +150 -35 - +150 -30 - +150	H1 Halal Kosher MOSH/ MOAH-free	Fully synthetic H1 high-performance gear oil for the food and pharmaceutical industry	• OEM approvals available • Without MOSH/MOAH as a formulation component - external laboratory analysis • Modern additives for optimum wear protection and high load carrying capacity
SYN-setral-GEAR/PGB ... FD series	PAG	150 220 320 460 680	-35 - +160 -35 - +160 -30 - +160 -30 - +160 -25 - +160	H1 Halal Kosher	Fully synthetic H1 high-performance gear oil based on polyalkylene glycol, especially suited for worm gearboxes with high sliding properties in the food and pharmaceutical industry	• OEM approvals, especially from gearbox manufacturers such as Flender • Without MOSH/MOAH as a formulation component • Water-soluble • Excellent wear protection with low friction coefficients • High viscosity index
SYN-setral-GEAR/PGC ... FD series	PAG	150 220 320 460 680	-35 - +160 -35 - +160 -30 - +160 -30 - +160 -25 - +160	H1 conform Halal Kosher	Fully synthetic H1 gear oil based on polyalkylene glycol for e.g. bevel, helical, planetary or worm gearboxes in the food and pharmaceutical industry with an outstanding formulation according to latest compliance and labeling	• Innovative formulation based on current technical and regulatory progress • Meets highest gearbox requirements • Without MOSH/MOAH as a formulation component • Low tendency for deposit formation • Water-soluble

*Cert. = Certificate

Gearboxes – GREASES

PRODUCT	BASE OIL	V40 [mm ² /s]	NLGI	THICKENER	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
SYN-setral-AL/C ... FD series	PAO	260	00 1 2	Aluminum complex solid with lubricants	-40 - +150 (short +160)	H1 Halal Kosher Sterility	Fully synthetic H1 aluminium-complex (fluid) grease for the food and pharmaceutical industry	• PFAS-free and microplastic-free formulation • OEM approvals available • Prevents germ growth thanks to special formulation • Suitable for use in central lubrication systems, including Simalub dispensers
SYN-setral-AL/C1-150 FD	PAO	150	1	Aluminum complex with solid lubricants	-45 - +120	H1 Halal Kosher Sterility	Fully synthetic H1 aluminum complex grease for the food and pharmaceutical industry	• PFAS-free, microplastic-free formulation and tested for sterility • Suitable for use in central lubrication system • Excellent wear protection at low friction rates • Low oil separation
SYN-setral-CA/C2-30 FD	PAO	30	2	Calcium sulfonate complex	-35 - +150	H1 Halal Kosher	Media-resistant high-performance and low-temperature grease with high wear and corrosion protection	• Without MOSH/MOAH as a formulation component • Very high wear and corrosion protection, high load carrying ability • Resistant to water washout • Shear stability
SYN-setral-CA/C2-400 FD (aerosol available)	PAO	400	2	Calcium sulfonate complex	-30 - +170	H1 Halal Kosher	H1 high-temperature grease with very high wear and corrosion protection	• PFAS-free and microplastic-free formulation • Without MOSH/MOAH as a formulation component • OEM approvals available • Suitable for Simalub dispensers • High adherence on metallic surfaces

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Chains and Ropes

PRODUCT	BASE OIL	V40 [mm ² /s]	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
FLUID-setral-STG 220 FD (aerosol available)	Ester	220	-20 - +260	H1 Halal Kosher MOSH/ MOAH-free	Fully synthetic H1 high-temperature chain oil of the latest generation	- Extremely low evaporation losses and coefficient of friction - Without MOSH/MOAH as a formulation component – external laboratory analysis - Excellent penetration properties - Silicone oil-free and PFAS-free
FLUID-setral-STG 320 FD	Ester	320	-10 - +260	H1 Halal Kosher	Fully synthetic H1 high-temperature chain oil of the latest generation	- Extremely low evaporation losses and coefficients of friction - Without MOSH/MOAH as a formulation component - Excellent penetration properties - Adhesive additives prevent dripping and spinning-off - Silicone oil-free and PFAS-free
FLUID-setral-SHT 2000 FD (Spray)	Ester	2880	-5 - +200	H1 Halal Kosher	Fully synthetic H1 adhesive lubricating oil for high-temperature applications	- Very good water resistance – not water soluble - Excellent creeping properties as spray - Adhesive additives prevent dripping and spinning-off
FLUID-setral-INT/500	PFPE	500	-20 - +310 (short +330)	H1 Halal Kosher	H1 high-temperature inert oil for rolling and sliding bearings as well as chains and ropes	- Excellent stability against chemicals - Without MOSH/MOAH as a formulation component - Excellent material compatibility - Extreme oxidation and thermal stability
FLUID-setral-SBO 320 B	Ester	320	-20 - +260	H2	High-temperature chain oil of the latest generation, especially developed for chains in BOPP film stretching equipment	- Excellent wear protection at low friction rates - No tearing of the film if contaminated with common film materials - Constant film thickness by constant lubrication film - Well conveyable in central lubrication systems
FLUID-setral-SPG 200 FD	PAG	230	-20 - +200 (dry up to +1000)	H1 Halal Kosher	H1 high-temperature chain oil with solid lubricants	- Microplastic-free formulation - Suited for high temperatures - Extended relubrication cycles - Economical in consumption
FLUID-setral-SHT 100 K	Ester	100	-40 - +250	H2 Halal Kosher	Fully synthetic oil with modern EP-additives and anti-oxidants for high temperatures	- Excellent penetration properties - Low friction coefficient - Adhesive additives prevent dripping and spinning-off - Free from substances listed in ZDHC MRSL (version 3.1)
SYN-setral-CA/C2-55 FD FLUID	PAO	60	-40 - +170	H1 Halal Kosher	H1 chain fluid for applications in humid environment in the food or pharmaceutical industry	- Excellent penetration properties - Contains solid lubricants - Good corrosion protection, especially in pasteurizer applications - Stable to cold and hot water
setral PLASTOLUB GK/FD	Semi-synthetic	37	-20 - +80	H1 Halal Kosher	Semi-synthetic H1 chain and rope lubricant for the food and pharmaceutical industry	- Reduces wear and friction - Good corrosion protection - Water resistant - Excellent creeping properties

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Hydraulic Systems

PRODUCT	BASE OIL	V40 [mm²/s]	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
HYD-setral-... FD series	Med. white oil	32 46 68	0 - +90 0 - +90 0 - +90	H1 Halal Kosher	H1 hydraulic oil for the food and pharmaceutical industry	• No tendency for foaming • OEM approval available • Good load carrying ability • Allows longer oil change intervals by lower strain
HYD-setral-SYN ... FD series	PAO	22 32 46 68 **100 **150	-50 - +140 -50 - +140 -50 - +140 -45 - +140	H1 Halal Kosher MOSH/ MOAH-free	Synthetic H1 hydraulic oil for the food and pharmaceutical industry	• Without MOSH/MOAH as a formulation component - external laboratory analysis • OEM approvals available • High wear protection and good load carrying ability • No tendency for foaming • Excellent demulsifying and air separation properties ** see COVA-setral-SHF ... FD series

Compressor and Vacuum Pumps

PRODUCT	BASE OIL	V40 [mm²/s]	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
COVA-setral-SHF ... FD series	PAO	32 46 68 100 150	-50 - +140 (short +150) -45 - +140 (short +150) -40 - +140 (short +150) -35 - +150 (short +160) -30 - +150 (short +160)	H1 Halal Kosher MOSH/ MOAH-free	Fully synthetic H1 special oil for the application in piston compressors and vacuum pumps	• Without MOSH/MOAH as a formulation component - external laboratory analysis • OEM approval available • Modern additives for ideal wear protection • Typically extends the life of filters and separator system
COVA-setral-SHF/C 68 FD	PAO	68	-50 - +140	H1 Halal Kosher	Fully synthetic H1 cooling compressor oil	• Without MOSH/MOAH as a formulation component • Outstanding lubrication effect even at extreme temperatures below the freezing point • Good wear properties • Extends oil change intervals compared to mineral oil-based products

Threaded Connections

PRODUCT	BASE OIL	NLGI	THICKENER	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
SYN-setral-FGP	Semi-synthetic	2	Inorganic	-30 - + 1200	H1 Halal Kosher	H1 high-temperature paste for the food and pharmaceutical industry	• OEM approval available • Prevents cold welding and scouring • Metal-free • Effective for lubricating even at high temperatures

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Rolling and Plain Bearings, Linear Guides

PRODUCT	BASE OIL	V40 [mm²/s]	NLGI	THICKENER	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
MI-setral-AL/FD ... series	Semi-synthetic	200	1 2	Aluminum complex	-20 - +140 (short +150)	H1 Halal Kosher	Semi-synthetic H1 aluminum complex grease for the food and pharmaceutical industry	• PFAS-free and microplastic-free formulation • Good corrosion protection • Compatible with common sealing materials • Reduces wear and friction
MI-setral-AL/C2 FD	Semi-synthetic	120	2	Aluminum complex	-20 - +130 (short +150)	H1 Halal Kosher	Light-coloured, semi-synthetic H1 aluminum complex grease for the food and pharmaceutical industry	• PFAS-free and microplastic-free formulation • Suitable for use in Simalub dispensers • Compatible with usual plastic and sealing materials • Excellent corrosion protection
SYN-setral-AL/C ... FD series	PAO	260	00 1 2	Aluminum complex with solid lubricants	-40 - +150 (short +160)	H1 Halal Kosher Sterility	Fully synthetic H1 aluminum complex grease for the food and pharmaceutical industry	• PFAS-free and microplastic-free formulation • OEM approvals available • Suitable for use in central lubrication systems, including Simalub dispensers • Tested for sterility
SYN-setral-AL/C1-150 FD	PAO	150	1	Aluminum complex with solid lubricants	-45 - +120	H1 Halal Kosher Sterility	Fully synthetic H1 aluminum complex grease for the food and pharmaceutical industry	• PFAS-free, microplastic-free formulation and tested for sterility • Suitable for use in central lubrication system • Excellent wear protection at low friction rates • Low oil separation
SYN-setral-CA/C ...-30 FD series	PAO	30	0 2	Calcium sulfonate complex	-35 - +150	H1 Halal Kosher	Media-resistant high-performance and low-temperature grease with high wear and corrosion protection	• Without MOSH/MOAH as a formulation component • Very high wear and corrosion protection, high load carrying ability • Resistant to water washout • Shear stability
SYN-setral-CA/C2 FD	Semi-synthetic	100	2	Calcium sulfonate complex	-25 - +160 (short +180)	H1 Halal Kosher Sterility	Versatile and media-resistant H1 high-temperature grease with high wear and corrosion protection	• PFAS-free, microplastic-free formulation and tested for sterility • High adherence on metallic surfaces • Very high wear and corrosion protection, high load carrying ability • High adherence on metallic surfaces
SYN-setral-CA/C2-400 FD (aerosol available)	PAO	400	2	Calcium sulfonate complex	-30 - +170	H1 Halal Kosher	H1 high-temperature grease with very high wear and corrosion protection	• PFAS-free, microplastic-free formulation • Without MOSH/MOAH as a formulation component • OEM approvals available • Suitable for Simalub dispensers • High adherence on metallic surfaces

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Rolling and Plain Bearings, Linear Guides

PRODUCT	BASE OIL	V40 [mm ² /s]	NLGI	THICKENER	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
SYN-setral-INT/250 FD ... series	PFPE	500	00 0 1 2	PTFE	-40 - +260 (short +280)	H1 Halal Kosher	H1 high-temperature grease for long-term lubrication of rolling, plain bearings and all sliding pairs in the food and pharmaceutical industry, particularly at high temperatures and aggressive ambience	• Without MOSH/MOAH as a formulation component • OEM approvals available • Excellent wear protection and high load carrying ability • Extended relubrication cycles • Resistant against chemicals and aggressive media
SYN-setral-INT/310 FD	PFPE	575	1	Special / solid lubricants	-20 - +310 (short +320)	H1 Halal Kosher	Innovative special H1 grease without PTFE for long-term lubrication with extreme demands, especially developed for oven pull-out systems	• Without MOSH/MOAH as a formulation component • Very good adhesive properties • Thermally stable up to +310 °C with extreme low evaporation rate • Resistant against chemicals and aggressive media
SYN-setral-INT/330 Special	PFPE	1200	2	Special / solid lubricants	-10 - +330 (short +340)	H1 Halal Kosher	Fully synthetic, special grease for lubrication at extremely high temperature and aggressive ambience, such as roller bearings at low speeds, slideways, hinges and joints	• Without MOSH/MOAH as a formulation component • Microplastic-free formulation • High wear protection and good load carrying ability • Superior to classical PFPE/PTFE greases • Resistant against chemicals and aggressive media
SYN-setral-SINT/425 CSF-2 FD	Synthetic	425	2	Special / PTFE	-20 - +200 (short +240)	H1 Halal Kosher	Innovative lubrication technology-based special grease for use at high temperatures	• Miscible with many high-temperature greases based on PFPE/PTFE • Low wear values in FE8 run • Lower density compared to regular PFPE greases • Compatible with most plastics and elastomers • Resistant against water, steam, acids and alkalines
SYN-setral-SINT/125 CST-2 FD	Synthetic	90	2	Special / PTFE	-55 - +200 (short +220)	H1 conform Halal Kosher	Innovative lubrication technology-based special grease for use at both low and high temperatures	• Miscible with many high-temperature greases based on PFPE/PTFE • Highest pressure and temperature stability • Compatible with most plastics and elastomers • Resistant against water, steam, acids and alkalines • Wide temperature range and high oxidation stability

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Fittings, Valves and Sealings

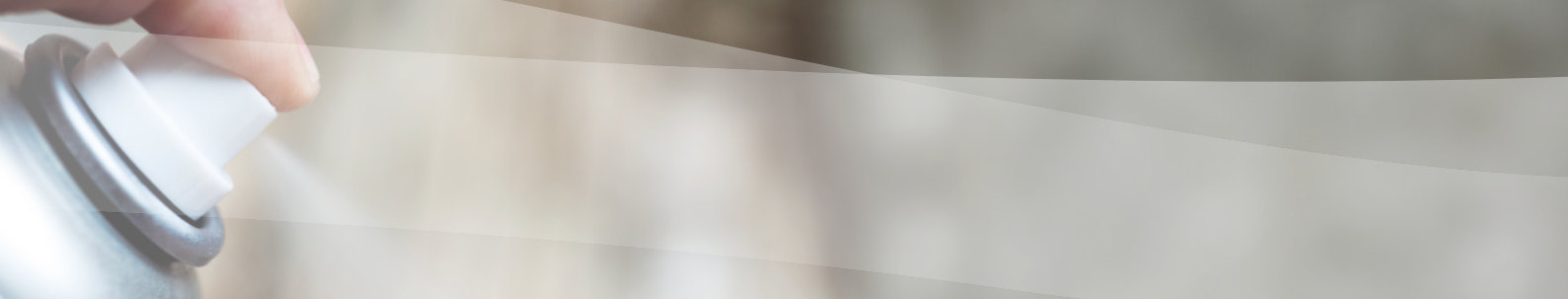
PRODUCT	BASE OIL	V40 [mm ² /s]	NLGI	THICKENER	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
MI-setral-AL/FD series	Semi-synthetic	200	1 2	Aluminum complex	-20 - +140 (short +150)	H1 Halal Kosher	Semi-synthetic H1 aluminum complex grease for the food and pharmaceutical industry	• PFAS-free and microplastic-free formulation • Good corrosion protection • Compatible with common sealing materials • Reduces wear and friction
MI-setral-FKR 2	Semi-synthetic	145	0 2	Inorganic	-15 - +120 (short +140)	H1 Halal Kosher	Light H1 multi purpose grease for food, beverage and pharmaceutical industry	• PFAS-free and microplastic-free formulation • Compatible with usual plastic and sealing materials • Reduces wear and friction
SI-setral-1041/FD	Silicone oil	5000 (25°C)	2-3	Inorganic	-30 - +200	H1 Halal Kosher Sterility	H1 adhesive grease based on silicone oil	• Without MOSH/MOAH as a formulation component • OEM approval available • Tested for sterility • Excellent oxidation stability and media resistance
SI-setral-642	Silicone oil	500 (25°C)	1-2	Inorganic	-40 - +200	H1 Halal Kosher	H1 silicone lubricating grease for a wide application range	• Without MOSH/MOAH as a formulation component • Outstanding sealing properties • Excellent oxidation stability • Neutral to elastomers, plastics and metals
SI-setral-929/FD	Silicone oil	750	3	Inorganic	-50 - +200	H1 Halal Kosher Sterility	H1 special grease for fittings based on silicone oil without PTFE	• PFAS-free and microplastic-free formulation and tested for sterility • OEM approvals available • Excellent sealing properties • Stable to cold and hot water, steam • Usually compatible with EPDM, FKM, NBR etc.
SYN-setral-53 B/... series	Synthetic	7500	0 3	Inorganic	-5 - +150	H1 Halal Kosher	H1 adhesive lubricating grease for the food, beverage and pharmaceutical industry	• Without MOSH/MOAH as a formulation component • Microplastic-free formulation • Very good adhesion property • Universal in use • Resistant to steam, fruit acids and alkaline detergents
SYN-setral-BFG 2-400	PAO	400	2	Inorganic	-40 - +120 (short +150)	H1 Halal Kosher Sterility	H1 adhesive lubricating grease for the food, beverage and pharmaceutical industry	• Without MOSH/MOAH as a formulation component and tested for sterility • Approved beer froth compatibility with passed sensor system check of odor and taste from research center Weihenstephan • Stable to cold and hot water • Compatible with usual plastic and sealing materials
SYN-setral-INT/200 OX	PFPE	24	2	PTFE	-50 - +200 (short +230)	H1 Halal Kosher	Fully synthetic H1 long-term grease for very low and high temperatures	• Without MOSH/MOAH as a formulation component • Insoluble in solvents, acids and liquid oxygen • Compatible with most plastics and elastomers • Very good low-temperature properties

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Release Agents

PRODUCT	BASE OIL	V40 [mm ² /s]	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
FLUID-setral-T 35 FD	Vegetable oil	35	+5 - +180	3H Halal Kosher	3H special oil based on renewable resources, especially developed for lubricating mechanical blades in dough dividers and as release agent for pastries and baked goods	• Without MOSH/MOAH as a formulation component • Formulated according to the positive list of the EU VO 95/2/CE • Prevents adhesion • Does not change taste or odor of the processed food products
setral DISCUTOIL 1346/FD	Ester	17.5	-10 - +190	H1 Halal Kosher	Fully synthetic H1 lubricating oil for friction pairs	• Without MOSH/MOAH as a formulation component • Low friction coefficient • Excellent wear protection and wetting properties to keep the surface clean and the blade flexible • Very good corrosion protection
FLUID-setral-INT (Spray)	PFPE	80	-30 - +270	H1 Halal Kosher	H1 high-temperature separating agent and lubricant with long-term effect	• Extremely low evaporation loss, even at high temperatures • Compatible with PFPE lubricants • Compatible with common plastics and elastomers (except fluorinated rubber and plastics) • Transparent odorless film
SI-setral-5 X (Spray)	Silicone oil	275	-40 - +200	H1 Halal Kosher	Synthetic, transparent H1 lubricating and separating agent based on silicone oil	• Outstanding water displacing properties • Separating and lubricating agent for plastics • For all moving parts metal on rubber • Avoids electrostatic charging thanks to its isolating layer
setral MULTI SILI (Spray)	Silicone oil	1.5	-40 - +150	H1 Halal Kosher	Fast-drying H1 lubricating fluid based on silicone oil	• Protects from humidity • Lubricates without greasing • Separating and lubricating agent for plastics • For all moving parts metal on rubber

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Cleaner

PRODUCT	EVAPORATION NO. (ETHER = 1)	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
CLEAN-setral-AN/U (Spray)	4	-40 - +40	K1 K3	High-performance cleaner and degreaser, highly effective and fast evaporating	• Evaporates quickly and residue-free • Cleans quickly and efficiently • Economical in consumption • Significantly better cleaning efficiency compared to brake cleaners
CLEAN-setral-CST	110	-20 - +40	H1 conform Halal Kosher	Universal cleaner and degreaser	• Absorbs water residues • Evaporates slowly and without residues • Agreeable odour • Removes grease and oil leftover
CLEAN-setral-FD (Spray)	19	-30 - +80	H1 Halal Kosher	H1 high-performance cleaner and degreaser	• Evaporates fast and without residues • Cleans quickly and efficiently • OEM approval available • Compatible with common plastic materials
CLEAN-setral-INT/648	4	-20 - +70	H1 Halal Kosher	Special cleaner/ thinner on PFPE basis	• Without MOSH/MOAH as a formulation component • Evaporates quickly and residue-free • Removes residues of old PFPE lubricants • Enables improved adhesion and thus an increased performance of PFPE lubricants on metallic surfaces

Maintenance

PRODUCT	BASE OIL	V40 [mm ² /s]	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
FLUID-setral-FKR	Semi-synthetic	21	-10 - +120	H1 Halal Kosher	H1 multi-purpose oil for the food processing and pharmaceutical industry	• Good preservation and conservation of equipment • Excellent sliding film • Transparent • Good corrosion protection
GLIS-setral-FD (aerosol available)	Semi-synthetic	2.5	-20 - +80	H1 Halal Kosher	H1 lubricating and fine oil for the food and pharmaceutical industry	• To lubricate, release, preserve/protect and clean in all areas • Outstanding lubrication effect even at extreme temperatures below the freezing point • Good corrosion protection and removes easily fretting corrosion • Passable making of mechanical elements • Neutral to most plastics and elastomers
setral DISCUTOIL 1346/FD	Ester	17.5	-10 - +190	H1 Halal Kosher	Fully synthetic H1 lubricating oil	• Without MOSH/MOAH as a formulation component • Low friction coefficient • Excellent wear protection and wetting properties • Very good corrosion protection

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Maintenance

PRODUCT	BASE OIL	V40 [mm ² /s]	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
setral MULTI SILI (Spray)	Silicone oil	1.5	-40 - +150	H1 Halal Kosher	Fast-drying H1 lubricant fluid based on silicone oil	• Protects from humidity • Lubricates without greasing • Separating and lubricating agent for plastics • For all moving parts metal on rubber
SI-setral-5 X (Spray)	Silicone oil	275	-40 - +200	H1 Halal Kosher	Synthetic, transparent H1 lubricating and separating agent based on silicone oil	• Outstanding water displacing properties • Separating and lubricating agent for plastics • For all moving parts metal on rubber • Avoids electrostatic charging thanks to its isolating layer

Corrosion Protection

PRODUCT	BASE	V40 [mm ² /s]	TEMP. RANGE [°C]	CERT.*	DESCRIPTION	FEATURES
PRO-setral-FD (aerosol available)	Corrosion protection in solvents	2	-30 - +70	H1 Halal Kosher	Grease-like H1 anticorrosive agent for temporary protection	• Forms a grease-like protective film after rapid solvent evaporation • High affinity for metallic surfaces • Extremely water repellent • Usually removed completely from injection moulding tools after a few shots

Metal Working

PRODUCT	V40 [mm ² /s]	SUITED MATERIALS	CERT.*	DESCRIPTION	FEATURES
CUT-setral-CST 2/F	1.9	Steel, tin, aluminum, non-ferrous metals	H1 Halal Kosher	Evaporating H1 stamping and drawing fluid with wear-reducing synthetic additives	• Evaporates quickly • Nearly residue-free evaporation • Contains no chlorine • Reduces wear and friction
setral ALUMICUT 659	9	Aluminum, aluminum/carbon sandwich materials, and titanium	H1 conform Halal Kosher	Synthetic metal working fluid specially suited for drilling of sandwich materials with a thickness of 158 mm	• Without MOSH/MOAH as a formulation component • Contains no chlorine • Excellent corrosion protection • VOC-free • Reduces wear and friction

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WE ARE
YOUR **TECHNOLOGY**
PARTNER
FOR **LUBRICANTS**

Current topics and evergreens in the food industry

✓ MOSH/MOAH

MOSH (mineral oil saturated hydrocarbons) and MOAH (mineral oil aromatic hydrocarbons) are regarded as mineral oil-based contaminations which should be prevented in the food industry. The latest EFSA study (European Food Safety Authority) shows that MOSH (C10 up to C50 hydrocarbons chain lengths) in food at the current exposure level does not pose a risk to the public health, consequently, there is no genotoxicity associated with MOSH.

The MOSH/MOAH topic is very complex, and its impact is ubiquitous in the environment. It does not necessarily originate from lubricants. There is no standardized permitted MOSH/MOAH limit value for lubricants. However, setral® provides external lab analysis regarding MOSH/MOAH for selected products. For further information please do not hesitate to contact us or have a look on our website.

✓ NSF

It is an internationally recognized organization responsible for food safety in the USA. The NSF is relevant to the lubricant industry for its registration of food grade lubricants and maintenance products according to relevant standards. The origin of this classification dates back to the U.S. Department of Agriculture (USDA), which discontinued its registration program in 1998, after which the NSF took over.

Setral® food grade products are registered by NSF.

✓ ISO 21469

This certification stands for high hygiene requirements during manufacturing of food grade lubricants. Special focus during inspection is put on measures to prevent cross-contamination with non-food related lubricants, contaminants of chemical, biological or aqueous origin as well as the cleanliness of the production area. This standard increases the product safety of lubricants and thus for food industry manufacturers and it supports quality management systems like HACCP.

All setral® food grade lubricants and maintenance products are produced under a hygienic quality management system certified acc. to ISO 21469.

✓ HACCP

H1-registered lubricants should be used at critical control points (CCPs). In HACCP (Hazard Analysis and Critical Control Points), lubrication points above or on the side of the food production line, or pressurized lubrication points below it, are usually considered CCPs.

✓ Halal and Kosher

Kosher and Halal are Jewish and Islamic nutritional guidelines, respectively. They also regulate the preparation of animal-based ingredients to ensure compliance with religious requirements. Lubricant manufacturers undergo audits to ensure that no animal products, such as blood, are used in the manufacturing process. Halal is even stricter, as it additionally stipulates that, for example, products used must be free of GMO and pork.

All food grade lubricants from setral® are Halal and Kosher certified.

Successful in more than **90 countries** with satisfied customers



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