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setral®



Special lubricants & maintenance products

Food and pharma industry

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setral®
Competence in Lubricants

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Setral Chemie GmbH and Sétral S.à.r.l. are each certified according to DIN EN ISO 9001, DIN EN ISO 14001 and DIN EN ISO 14001.



setral®
Competence in Lubricants

setral® – special lubricants and maintenance products for the food and pharma industry

Lubricants in the food and pharma industry are used for the lubrication and maintenance of machines and plants and for the manufacturing and handling of food. Related industries are foodstuff commodity, feed, pharmaceutical products and cosmetics.

Suppliers of plants, machines and packaging for these industries also use lubricants and maintenance products.

In these above-mentioned sectors an incidental, unavoidable contact of the lubricant and

the end product (food) is possible. By this definition lubricants are process materials and not food or food additives and should be classified accordingly.

Lubricants for these industries have to cope with a lot of challenges like the influence of moisture, extreme temperatures and aggressive media as well as cleaners and disinfectants.

Our **setral®** product portfolio includes more than 100 lubricants and maintenance products for various applications in the food and pharma industry.

Besides physiological and food-approved harmlessness, many **setral®** products show the following properties:

- Odorand tasteless
- Reduction of wear and friction
- Neutral towards elastomers
- Stable towards cold and hot water
- Media resistant towards alkalis, acids, steam, etc.
- According to food regulations
- Free from MOSH/MOAH
- Free from GMO
- Free from allergens



H1	Lubrication points with incidental, technically unavoidable and minimal food contact of the lubricant
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	Solvent cleaners or non-processing areas
K3	Solvent cleaners and adhesive/glue removers without food contact
A1	Cleaners for food processing areas with appropriate protection of the food
HACCP	H1 registered lubricants are to be used at CCPs (critical control points). HACCP (hazard analysis and critical control points) usually considers lubrication points as CCPs that are above or on the side of the food production line or pressurized lubrication points below it.

*Please note the detailed description and application notes at <https://www.setral.net/products/de/>



For more than 50 years, we have been developing, manufacturing and distributing lubricants and chemical-technical maintenance products for various industrial applications worldwide.



setral® products fulfil the strict requirements of the internationally operating organization for product registrations the NSF International. Lubricants for the food industry are classified according to various categories with specific requirements.



setral® is certified according to DIN EN ISO 21469. The DIN EN ISO 21469 settles hygiene regulations for the proper manufacturing of H1 products. It guarantees pure products without contaminations by impurities, water or other materials. Besides that, recipe, packaging and storage conditions are controlled.



setral® is a member of the European Hygienic Engineering and Design Group (EHEDG). This is an alliance of suppliers for the food production, food processing companies, research institutes and establishments of public health care as foundation. It was established in 1989 and its aim was to support hygiene measures during the manufacturing and packaging process of food.



setral® product range includes numerous food industry lubricants, which are certified according to Kosher & Halal. Jewish and Muslim food regulations are taken into consideration worldwide. Not only the food and beverages itself, but also the production process and the environment in which goods are produced and stored are subject to the strict regulations. Especially during the manufacturing process of Kosher & Halal food, which needs to be manufactured according to Jewish and Muslim food regulations, the selection of the proper lubricant is very important. The sole 'H' registration is not sufficient for a compliance with Kosher & Halal. Therefore, it is necessary to use Kosher & Halal certified H1 lubricants to ensure compliance.



GEAR OILS

Product	Base oil	ISO VG at 40 °C [mm ² /s]	Application temperature [°C]	Certificates	Description	Features
MI-setral-GEAR...FD series	Med. white oil	150 220 320 460	0 to +90 0 to +100	H1, Kosher, Halal	H1 gear oils for normal temperature applications	<ul style="list-style-type: none"> Compatible with usual plastic and sealing materials No tendency for foaming Reliable prevention of micropitting Good corrosion protection
SYN-setral-GEAR...FD series	PAO	150 220 320 460 680	-40 to +140 -35 to +140 -5 to +140	H1, Kosher, Halal	Fully synthetic H1 high performance gear oils for extended re-lubrication intervals	<ul style="list-style-type: none"> Excellent wear protection High demulsibility Good air separation Extends oil change intervals compared to mineral and white oil Compatible with usual plastic and sealing materials
SYN-setral-GEAR/PGB...FD series	PG	150 220 320 460 680	-30 to +140 (short +150)	H1, Kosher, Halal	Fully synthetic H1 high performance gear oils for extended re-lubrication intervals of the latest generation	<ul style="list-style-type: none"> Excellent wear protection High demulsibility Good air separation Extends oil change intervals compared to mineral and white oil Compatible with usual plastic and sealing materials

Other viscosities on request

GEAR GREASES

Product	Base oil	ISO VG at 40 °C [mm ² /s]	NLGI	Solid lubricant / thickener	Application temperature [°C]	Certificates	Description	Features
SYN-setral-AL/C00 FD	PAO	260	00	Aluminium complex, white solid lubricants	-40 to +150 (short +160)	H1, Kosher, Halal	Fully synthetic H1 aluminium complex fluid grease for food and pharma industry	<ul style="list-style-type: none"> Compatible with common plastics and sealing materials Pumpable in central lubrication systems No resinous Compatible towards cold- and hot water, steam

CHAINS & ROPES

Product	Base oil	ISO VG at 40 °C [mm ² /s]	Application temperature [°C]	Certificates	Description	Features
FLUID-setral-STG 220 FD (as well as spray)	Ester	220	-20 to +260	H1, Kosher, Halal	Fully synthetic H1 high-temperature chain oil of the latest generation	<ul style="list-style-type: none"> Extremely low evaporation losses Excellent penetration properties Extremely low coefficient of friction Chemically stable and ageing resistant, even in aggressive air High hydrolytic stability
FLUID-setral-INT/500	PFPE	500	-20 to +300	H1, Kosher, Halal	H1 high-temperature inert oil for extremely long re-lubrication intervals	<ul style="list-style-type: none"> Extremely low vapour pressure Excellent stability against chemicals Excellent compatibility with common materials High oxidation stability and thermal stability
FLUID-setral-SBO 320 B	Ester	320	-20 to +260	H2	High-temperature chain oil of the latest generation, especially developed for chains in BOPP film stretching equipment	<ul style="list-style-type: none"> Extremely low evaporation losses Excellent penetration properties Extremely low coefficient of friction No tearing of the film if common film materials contaminated by lubricant Constant film thickness by constant lubrication cycles Well conveyable in central lubrication systems
FLUID-setral-SPG 200 FD	PG	230	-20 to +250 (dry to +1000)	H1, Kosher, Halal	H1 high-temperature chain oil with solid lubricants, especially developed for the manufacturing of packages (e.g. aluminium tubes)	<ul style="list-style-type: none"> Contains solid lubricant Suited for high temperatures Extended relubrication cycles Economical in consumption
FLUID-setral-SHT 100 K	Ester	100	-40 to +250	H2, Kosher, Halal	Fully synthetic chain oil with excellent wear protection	<ul style="list-style-type: none"> Excellent penetration properties Low friction coefficient Chemically stable No lacquering
SYN-setral-CA/C2-55 FD FLUID	PAO	60	-40 to +170	H1, Kosher, Halal	H1 chain fluid for applications in humid environment (e.g. pasteurisation lines)	<ul style="list-style-type: none"> Excellent penetration properties Contains solid lubricants Good corrosion protection Stable to cold and hot water
setral PLASTOLUB GK/FD	Semi-synthetic	37	-20 to +80	H1, Kosher, Halal	Semi-synthetic H1 chain and rope lubricant with high corrosion protection	<ul style="list-style-type: none"> Reduces wear and tear Good corrosion protection Water resistant Excellent penetrating properties

For further information check the technical data sheet or contact our technical service.

HYDRAULIK

Product	Base oil	ISO VG at 40 °C [mm ² /s]	Application temperature [°C]	Certificates	Description	Features
HYD-setral-...FD series	Med. white oil	32 46 68	0 to +90	H1, Kosher, Halal	H1 hydraulic oils	<ul style="list-style-type: none"> No tendency for foaming Good pressure absorption Extended service life of machines elements and industry plants Allows longer oil change intervals by lower stress Compatible with common plastics, elastomers and paints
HYD-setral-SYN...FD series	PAO	32 46 68	0 to +90	H1, Kosher, Halal	Fully synthetic H1 hydraulic oils for extended oil change intervals	<ul style="list-style-type: none"> High wear protection, good load carrying ability High demulsibility Good air separation No deposit formation Good compatibility with pipelines, tubes as well as other system components

Other viscosities on request

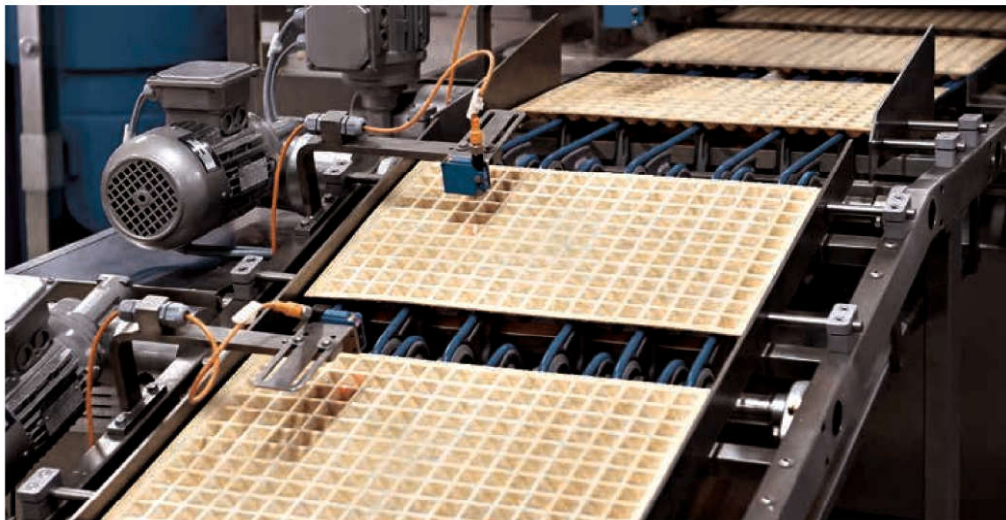
COMPRESSORS & VACUUM PUMPS

Product	Base oil	ISO VG at 40 °C [mm ² /s]	Application temperature [°C]	Certificates	Description	Features
COVA-setral-SHF ... FD	PAO	32 46 68 100 150	-35 to +145 -30 to +150 -25 to +160	H1, Kosher, Halal	Fully synthetic H1 hydraulic oils of the newest generation for prolonged oil change intervals	<ul style="list-style-type: none"> Modern additives for ideal wear protection High oxidation stability Minimum oil vapor contamination of the compressed air Extends oil change intervals compared to mineral and white oil Miscible with standard mineral oils Compatible with most plastics and elastomers
COVA-setral-SHF/C 68 FD	PAO	68	-50 to +140	H1, Kosher, Halal	Fully synthetic H1 refrigeration compressor oil	<ul style="list-style-type: none"> High oxidation stability Good wear properties High demulsibility Extends oil change intervals compared to mineral oil based products

SCREW CONNECTIONS

Product	Base oil	NLGI	Solid lubricant/ thickener	Application temperature [°C]	Certificates	Description	Features
SYN-setral-FGP	Semi-synthetic	2	white solid lubricants	-30 to +1200	H1, Kosher, Halal	H1 high-temperature paste for screwings, bolts, flanges	<ul style="list-style-type: none"> High load carrying ability Avoids scoring Compatible with elastomers Metal-free Avoids cold welding

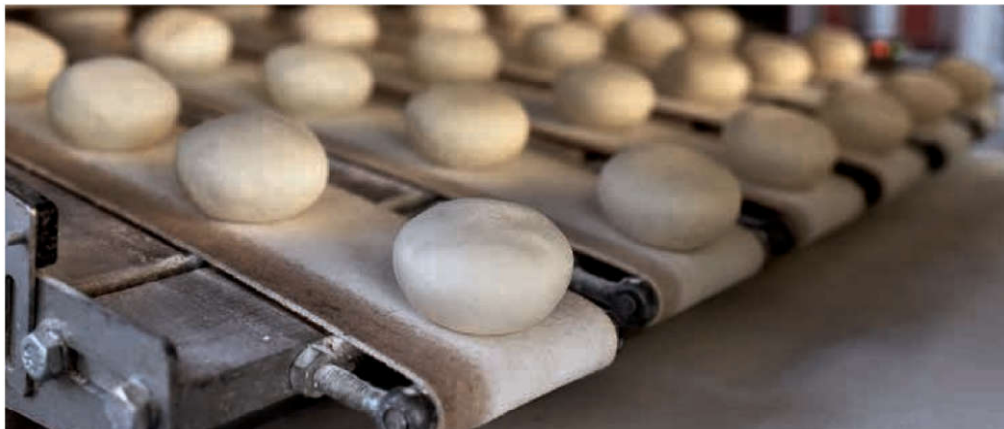
For further information check the technical data sheet or contact our technical service.



ROLLER AND SLIDE BEARINGS, LINEAR GUIDES

Product	Base oil	Base oil viscosity at 40 °C [mm ² /s]	NLGI	Solid lubricant / thickener	Application temperature [°C]	Certificates	Description	Features
MI-setral-AL/C... FD	Med. white oil	120	1 2	Aluminium complex	-20 to +130 (short +150)	H1, Kosher, Halal	Light H1 aluminium complex grease	<ul style="list-style-type: none"> Compatible with usual plastic and sealing materials Good corrosion protection No gumming
SI-setral-L 50	Silicone oil	90	2	PTFE	-50 to +200	H1, Kosher, Halal	H1 high- and low temperature grease based on silicone with PTFE	<ul style="list-style-type: none"> Outstanding sealing properties Non-volatile Stable to cold and hot water Hot steam resistant Compatible with EPDM, FPM, NBR etc.
SYN-setral-AL/C... FD series	PAO	260	00 0 1 2	Aluminium complex, white solid lubricants	-40 to +150 (short +160)	H1, Kosher, Halal	Fully synthetic H1 aluminium complex grease with solid lubricants	<ul style="list-style-type: none"> Well conveyable in central lubrication systems No gumming Stable to cold, hot water and steam Excellent corrosion protection
SYN-setral-CA/C...-30 FD series	PAO	30	0 2	Calcium sulfonate complex	-35 to +150 -25 to +150	H1, Kosher, Halal	Media-resistant H1 high performance and low temperature grease with high welding and corrosion protection	<ul style="list-style-type: none"> Resistant to cold and hot water, alkaline solutions etc. Very high wear and corrosion protection, high load carrying ability Reduces wear and tear
SYN-setral-CA/C2 FD	Semi-synthetic	100	2	Calcium sulfonate complex	-25 to +160 (short +180)	H1, Kosher, Halal	Versatile and media-resistant H1 high-temperature grease with high wear and corrosion protection	<ul style="list-style-type: none"> Resistant to cold and hot water, alkaline solutions etc. Very high wear and corrosion protection, high load carrying ability High adherence on metallic surfaces
SYN-setral-CA/C2-400 FD (also as spray)	PAO	400	2	Calcium sulfonate complex	-30 to +170	H1, Kosher, Halal	H1 high-temperature grease with very high wear and corrosion protection specially developed for animal feed pellet mills	<ul style="list-style-type: none"> Compatible with common plastics, elastomers and paints Very good adhesion property Resistant to cold and hot water, alkaline solutions etc. Resistance to load and shock load
SYN-setral-INT/250 FD... series	PFPE	500	00 0 1 2	PTFE	-40 to +260 (short +280)	H1, Kosher, Halal	H1 high-temperature grease for long-term lubrication, particularly at high temperatures and aggressive ambience	<ul style="list-style-type: none"> High load carrying ability Excellent wear protection Extended relubrication cycles Resistant to chemicals and aggressive media Neutral to most plastics and elastomers
SYN-setral-INT/310 FD	PFPE	575	1	Special	-20 to +310 (short +320)	H1, Kosher, Halal	Innovative special H1 grease without PTFE for long-term lubrication with extreme demands	<ul style="list-style-type: none"> Superior to classical PFPE/PTFE greases Thermally stable up to +310 °C with extreme low evaporation rate Resistant to chemicals and aggressive media Compatible with most plastics and elastomers
SYN-setral-INT/330 Special	PFPE	1000	2	Anorganic	-10 to +300 (short +330)	H1, Kosher, Halal	Fully synthetic H1 special grease for long-term lubrication, stable at high temperature and aggressive ambience of the latest generation	<ul style="list-style-type: none"> PTFE-free High wear protection, good load carrying ability Superior to classical PFPE/PTFE greases Insoluble in usual solvents, acids, lye Extraordinary low evaporation losses at up to +300 °C
SYN-setral-SINT/425 CSF-2 FD	Special synthetic	460	2	Special	-40 to +220 (short +240)	H1, Kosher, Halal	H1 high-temperature special grease based on an innovative lubricant technology	<ul style="list-style-type: none"> Miscible with most high-temperature greases based on PFPE/PTFE and PFPE/ester/PU as well as further combinations Good ageing and oxidation stability Highest pressure and temperature stability Lower density compared to regular PFPE greases Compatible with most plastics and elastomers Resistant to water, steam, acids and alkalines

For further information check the technical data sheet or contact our technical service.



FITTINGS, VALVES, SEALINGS

Product	Base oil	Base oil viscosity at 40 °C [mm ² /s]	NLGI	Solid lubricant / thickener	Application temperature [°C]	Certificates	Description	Features
MI-setral-AL/FD-... series	Semi-synthetic	200	1 2	Aluminium complex, light solid lubricants	-25 to +140 (short +160)	H1, Kosher, Halal	Semi-synthetic H1 aluminium complex grease	<ul style="list-style-type: none"> Stable to ageing, no gumming Good corrosion protection Compatible with common sealing materials and paints Resistant to cold and hot water
MI-setral-FKR ... series	Semi-synthetic	145	0 2	Anorganic	-15 to +120 (short +140)	H1, Kosher, Halal	Ligh H1 multi-purpose grease	<ul style="list-style-type: none"> Resistant to cold and hot water, alkaline solutions etc. Compatible with common plastics, elastomers and paints Excellent corrosion protection Neutral to beerfoamif properly applied
SI-setral-1041/FD	Silicone oil	3500	2-3	Anorganic	-30 to +200	H1, Kosher, Halal	H1 adhesive grease based on silicone oil	<ul style="list-style-type: none"> Excellent oxidation stability Stable to humidity Economical in consumption
SI-setral-642	Silicone oil	350	1-2	Anorganic	-40 to +200	H1, Kosher, Halal	H1 silicone lubricating grease for a wide application range	<ul style="list-style-type: none"> Resistant to cold and hot water Outstanding sealing properties Excellent oxidation stability Neutral to elastomers, plastics and metals
SI-setral-929/FD	Silicone oil	750	3	Anorganic/PTFE	-50 to +200	H1, Kosher, Halal	H1 special grease for fittings based on silicone oil and PTFE	<ul style="list-style-type: none"> Excellent oxidation stability Excellent sealing properties Resistant to cold and hot water, steam Usually compatible with EPDM, FKM, NBR etc.
SYN-setral-53 B/... series	Synthetic	7500	0 3	Anorganic	-5 to +150	H1, Kosher, Halal	H1 adhesive grease	<ul style="list-style-type: none"> Universal in use Very good adhesion property Resistant to cold and hot water Resistant to steam, fruit acids and alkaline detergents
SYN-setral-BFG 2-400	PAO	400	2	Anorganic	-40 to +120 (short +150)	H1, Kosher, Halal	H1 adhesive lubricating grease for the lubrication of elastomers	<ul style="list-style-type: none"> Tested by Institut Nehring to ensure safety in terms of food law Tested by Weihenstephan on beer foam stability and odor/taste contamination of beer Resistant to cold and hot water, alkaline solutions etc. Compatible with common plastics and elastomers Neutral to beerfoamif properly applied
SYN-setral-INT/200 OX	PFPE	24	2	PTFE	-50 to +200 (short +230)	H1, Kosher, Halal	Fully synthetic special H1 grease for oxygen valves and plant components as well as rolling and sliding bearings at low temperatures	<ul style="list-style-type: none"> BAM-tested, BAM-Az: 2-171/2011, max. temperature +60°C, max. oxygen pressure 80 bar (only valid for gaseous oxygen) Compatible with most plastics and elastomers Very good low temperature properties
SYN-setral-INT/300	PFPE	500	2	Special	-30 to +300	H1, Kosher, Halal	Fully synthetic H1 special grease, free from solid lubricants for long-term lubrication at high temperatures	<ul style="list-style-type: none"> Approved and recommended from well-known manufacturers worldwide Thermally stable up to +300°C at extremely low evaporation rates Achievement of high number of shots without relubrication Stays in place, no transport onto the plastic parts No stress cracks by outgassing substances (DIN 53449) Neutral behaviour to common elastomers and plastics Packing of the injection-moulded parts possible without cleaning Stable to aggressive plastic condensates Optimal running in properties for new tools

For further information check the technical data sheet or contact our technical service.



RELEASE AGENTS

Product	Base oil	ISO VG at 40 °C [mm ² /s]	Application temperature [°C]	Certificates	Description	Features
FLUID-setral-T 35 FD	Native oil	35	+5 to +180	3H, Kosher, Halal	3H special release agent based on renewable resources	<ul style="list-style-type: none"> Free from animal ingredients Free from allergens Prevents adhesion Does not change taste or odor of the processed food products
FLUID-setral-INT (spray)	PFPE	80	-30 to +220 (short +250)	H1, Kosher, Halal	H1 high-temperature separating agent and lubricant with long-term effect	<ul style="list-style-type: none"> Extremely low evaporation loss, even at high temperatures Compatible with PFPE based lubricants Neutral behaviour to common elastomeres and plastics Non-flammable
setral DISCUTOIL 1346/FD	Ester	17	-10 to +190	H1, Kosher, Halal	Fully synthetic H1 lubricating oil	<ul style="list-style-type: none"> Miscible with mineral oils Excellent wetting properties Excellent wear protection Low friction coefficient
SI-setral-5 X (also as spray)	Silicone oil	350	-40 to +200	H1, Kosher, Halal	Synthetic, transparent H1 lubricating and separating agent, based on silicone oil	<ul style="list-style-type: none"> Protects against humidity Separating and lubricating agent for plastics For all moving parts metal on rubber Water displacing properties Transparent
SI-setral-5 X-20	Silicone oil	20	-50 to +180	H1	Synthetic, transparent H1 lubricating and separating agent, based on silicone oil	<ul style="list-style-type: none"> Protects against humidity Water displacing properties High thermal stability Transparent Very good low temperature properties

For further information check the technical data sheet or contact our technical service.



CLEANING

Product	Evaporation rate (ether = 1)	Application temperature [°C]	Certificates	Description	Features
CLEAN-setral-AN/U (spray)	4	-40 to +40	K1/K3	High-performance cleaner and degreaser, highly effective and fast evaporating	<ul style="list-style-type: none"> Evaporates quickly and residue-free Cleans quickly and efficiently Economical in consumption
CLEAN-setral-CST	110	-20 to +40	H1, Kosher, Halal	H1 general purpose cleaner and degreaser	<ul style="list-style-type: none"> Absorbs water residues Evaporates slowly and almost without residues Agreeable odour
CLEAN-setral-FD (also as spray)	19	-30 to +80	H1, Kosher, Halal	H1 general purpose cleaner and degreaser	<ul style="list-style-type: none"> Evaporates fast and without residues Compatible with many elastomers plastic materials Cleans quickly and efficiently Agreeable odour Economical in consumption
CLEAN-setral-INT/648	4	-20 to +70	H1, Kosher, Halal	H1 special cleaner/thinner on PFPE basis	<ul style="list-style-type: none"> Evaporates fast and without residues Permits improved adhesion and thus an increased performance of PFPE lubricants on metallic surfaces Removes residues of old PFPE lubricants Cleans quickly and efficiently

For further information check the technical data sheet or contact our technical service.



MAINTENANCE AND SERVICE

Product	Base oil	ISO VG/ viscosity at 40 °C [mm ² /s]	Application temperature [°C]	Certificates	Description	Features
FLUID-setral-FKR (also as spray)	Med. white oil	21	-15 to +120	H1, Kosher, Halal	H1 multi-purpose oil	<ul style="list-style-type: none"> • Good corrosion protection • Agreeable odour • Physiologically harmless • Transparent
GLIS-setral-FD (also as spray)	Semi-synthetic	3	-20 to +80	H1, Kosher, Halal	H1 lubricating and fine oil	<ul style="list-style-type: none"> • Excellent lubricating and passable making of mechanical elements • Outstanding lubrication effect even at extreme temperatures below the freezing point • Removes easily fretting corrosion • Does not contain acid and resin • Neutral to most plastics and elastomers
setral MULTI SILI (also as spray)	Silicone oil	2	-40 to +150	H1, Kosher, Halal	Fast-drying H1 lubricant fluid on silicone base	<ul style="list-style-type: none"> • Protects against humidity • Separating and lubricating agent for plastics • For all moving parts metal on rubber • Lubricates without greasing • Transparent
SI-setral-5 X (also as spray)	Silicone oil	350	-40 to +200	H1, Kosher, Halal	Synthetic, transparent H1 lubricating and separating agent, based on silicone oil	<ul style="list-style-type: none"> • Protects against humidity • Separating and lubricating agent for plastics • For all moving parts metal on rubber • Water displacing properties • Transparent
SI-setral-5 X-20	Silicone oil	20	-50 to +180	H1	Synthetic, transparent H1 lubricating and separating agent, based on silicone oil	<ul style="list-style-type: none"> • Protects against humidity • Water displacing properties • High thermal stability • Transparent • Very good low temperature properties

CORROSION PROTECTION

Product	Base oil	ISO VG at 40 °C [mm ² /s]	Application temperature [°C]	Certificates	Description	Features
PRO-setral-FD (also as spray)	Med. white oil	2	-30 to +70	H1, Kosher, Halal	Grease-like H1 anticorrosive agent for temporary protection	<ul style="list-style-type: none"> • Removed completely from injection moulding tools after a few shots • Extremely water repellent • Short drying time • High affinity for metallic surfaces • Silicone-free • Economical in consumption
PRO-setral-G 1858 FD (also as spray)	PAO	25	-40 to +70	H1	Grease-like H1 anticorrosive agent for temporary protection	<ul style="list-style-type: none"> • Extremely water repellent • Short drying time • High affinity for metallic surfaces • Economical in consumption

METAL WORKING

Product	ISO VG at 40 °C [mm ² /s]	Suited materials	Certificates	Description	Features
CUT-setral-BIO 303	40	Steel, stainless steel, tin, aluminium and aluminium/carbon alloy	H1, Kosher, Halal	H1 metal working fluid based on vegetable oil	<ul style="list-style-type: none"> • Reduces wear and tear • Free from nitrite • Biodegradable • Very high flash point • Excellent EP properties • Mineral oil free • Contains no chlorine
CUT-setral-CST 2/F	1,8	Steel, tin, aluminium, non-ferrous metals	H1, Kosher, Halal	Evaporating H1 stamping and drawing fluid with wear-reducing synthetic additives	<ul style="list-style-type: none"> • Evaporates quickly • Nearly residue-free evaporation • Free from heavy metals and its compounds • Contains no chlorine • Subsequent cleaning not necessary • Paint compatible, suitable for water-based and solvent based paints
setral ALUMICUT 659	9	Aluminium, aluminium/carbon alloy sandwich material and titan	H1, Kosher, Halal	Synthetic H1 metal working fluid	<ul style="list-style-type: none"> • Contains no chlorine • No reaction on the metal • VOC free

For further information check the technical data sheet or contact our technical service.

