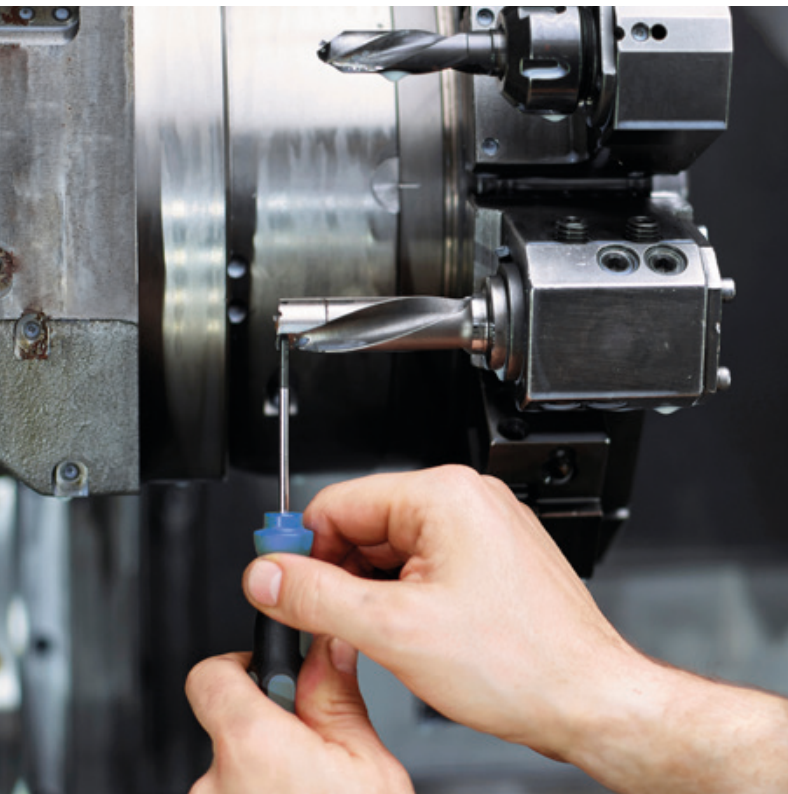




TUNAP INDUSTRY

Maintenance programme

Maintenance with TUNAP products for a high level of cleanliness and lubrication



Memberships and registrations as a sign of our commitment

As a lubricant manufacturer, TUNAP is aware of its special responsibility. We document our high efficiency, environmental and health compatibility standards through various registrations and certifications.



H1 lubricants are used where there may be occasional or technically unavoidable contact with food products, e.g., during feeding, processing and packaging. Our products are registered with the NSF for use in the food, pharmaceutical and animal feed industries.

The lubricants, cleaners and maintenance products from TUNAP fulfil the requirements according to:

- ✓ Halal Labelling for halal products (permissible, permitted) according to Islamic law.
- ✓ Kosher Labelling for products classified as kosher (suitable, pure) according to Jewish dietary laws.



Certifications as a sign of quality

With ISO 21469 certification, TUNAP fulfils the most comprehensive hygiene requirements for the production of H1 lubricants. International certification is the most demanding proof of safety, reliability and product responsibility. The standard requires a holistic view of the life cycle of an NSF H1 product. Strict regulation of the recipe regarding ingredients, production, handling, packaging, storage and use ensures the highest quality.

With two further certifications, TUNAP demonstrates a reliable quality and environmental management system. The commitment to sustainability is an integral part of TUNAP's corporate strategy, as evidenced by the ISO 14001 certificate. ISO 9001 certification attests to TUNAP's reliable quality management and ensures consistently high product and service quality.



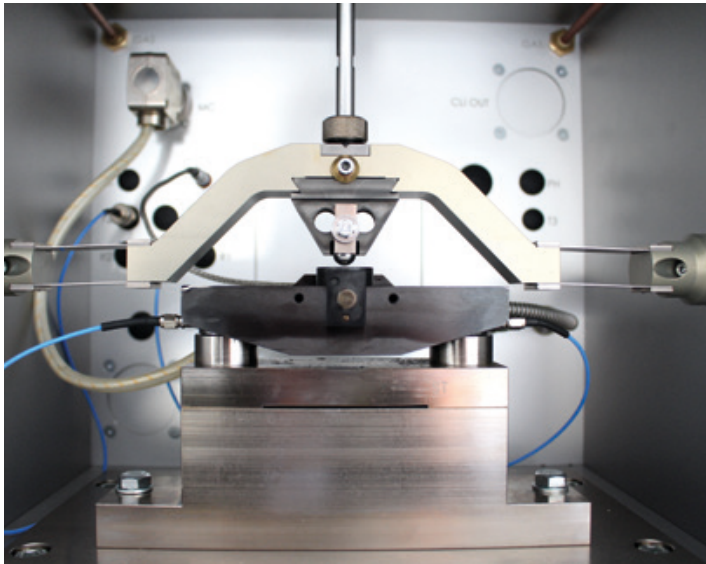
TUNAP stands for passion and expertise.
We advise you to select the right products and support you with on-site implementation.

As a lubricant expert with our own development and production facilities, we offer professional solutions for maintenance challenges in various industrial sectors. TUNAP high-performance maintenance products ensure excellent cleaning and lubrication of your components, surfaces and friction partners while providing adequate corrosion protection.

Together with developers and application engineers, we also develop unique solutions tailored to your requirements. With intelligent and customised solutions that adapt to your needs and the conditions of your machines and systems, we contribute to health, resource conservation and economic efficiency.

In addition to the safety of people and systems, using high-performance lubricants from TUNAP significantly influences the functionality and service life of components and it plays a decisive role in achieving sustainability goals.

Therefore, we ensure our products' performance and round off our expertise with an extensively equipped chemical-analytical laboratory and numerous model and component test benches.



TUNAP

Maintenance programme for industrial applications



Cleaner

TUNCLEAN 895 – INTENSIVE CLEANER			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Quick degreaser and cleaner with a very good cleaning effect for maintenance, repair and assembly	• Average evaporation rate • Residue-free cleaning for grease-free surfaces and easy follow-up processes • Contains no chlorinated or halogenated hydrocarbons • Contains no carcinogenic hazardous substances, according to GefStoffV	• For maintenance, repair and assembly in case of extreme greasing and gumming • For degreasing and activating parts before bonding and varnishing • Removes oils and resin crusts, synthetic oil and silicone residues • Ideal for residue-free cleaning • Replaces TRI, PER, CHC-containing cleaners • As a brake cleaner	• Colour space: colourless, clear • Density (20°C) [g/cm³]: 0,755 • Flash point [°C]: -17° • Evaporation rate: 3,9

Multifunctional oil

100 – MULTIFUNCTIONAL OIL			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
5-in-1: lubricates, maintains, protects, cleans and dissolves rust	• Universally applicable multifunctional oil for five areas of application: lubrication, rust removing, cleaning, corrosion protection and as a contact spray • Very good protection against wear • Excellent water displacement • Very good corrosion protection • Excellent rust penetration • Very good creep properties • Improves electrical conductivity and eliminates leakage currents • Resin-, acid- and silicone-free • Does not attack rubber, paint and plastics	• Lubricates door locks, locking cylinders, locks, hinges, bushes, chains • Stops squeaking and creaking and makes anything that is stuck or jammed slide smoothly • Loosens rusted bolts, screws, nuts and joints • Prevents corrosion on metals and electrical assemblies • Infiltrates and displaces moisture in electrical and electronic areas	• Colour space: colourless, clear • Density (20°C) [g/cm³]: 0,77

Chain oil

TUNFLUID HT 2200 – SYNTHETIC HIGH TEMPERATURE ADHESIVE OIL			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Synthetic high-temperature adhesive oil for chain lubrication with OMC ₂ technology Also available as an aerosol Suitable cleaners: TUNCLEAN 895 915	• Particularly strong adhesion to prevent spin-off and drip-off contamination • Increased energy efficiency and lower operating temperatures through the OMC₂ additive technology with friction reduction • Economical consumption due to high thermal stability with extremely low evaporation loss • Extremely low vapour residue • Excellent wear protection for reliable chain operation • Reliable corrosion protection	• Chain lubrication in the normal and high temperature range up to approx. +220°C: • Stenter and drying frame in the textile industry • Drive and transport chains in the chemical industry, in painting shops, in wood and plastics processing • Chains in shrink, baking, vulcanising and drying ovens • Chains, ropes, spindles and gear wheels in wet areas • Washing and drying systems • Sewage treatment plants, harbour, lock and shipyard facilities	• Colour space: reddish, clear • Density (20°C) [g/cm³]: 0,92 • Base oil: ester • Flash point [°C]: > 230 • Pourpoint [°C]: -10 • Operating temperature [°C]: 0 to 220 • Kinematic viscosity (40°C) [mm²/s]: 2200

Grease spray

TUNGREASE HLW			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Modern assembly and maintenance spray	• Very good adhesion and media resistance, e.g. under the influence of water and moisture • Very good protection against corrosion and fretting corrosion • Very good wear protection • Splash water and temperature resistant • Very good low-temperature and high-temperature behaviour • Fully synthetic base for a long-lasting lubricating effect	• For the lubrication of bearings, chains, levers, joints, etc. • Aerosol supports application at hard-to-reach lubrication points • For the protection and preservation of metal surfaces	• Colour space: white • Density (20°C) [g/cm³]: 0,795 • Operating temperature [°C]: -40 to 180

TUNAP

Maintenance programme for industrial applications

Paste

TUNPAS MS – MOS2 ASSEMBLY PASTE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Synthetic assembly paste with inorganic thickener and MoS2 Suitable cleaners: TUNCLEAN 895 915	• Highest pressure absorption capacity and low friction coefficients • Particularly suitable for running-in lubrication • Outstanding wear protection and separating effect protect the surface • Special solid lubricant combination prevents stick-slip • For reliable assembly lubrication due to constant preload forces	• For basic lubrication during assembly work • For running-in lubrication guides, bearings, joints and sliding surfaces • To protect the surfaces in fittings and press-fittings • For the protection of bolted joints and to achieve uniform friction coefficients • In metal forming to prevent tool damage, to reduce pressures and to improve the surfaces of the workpieces	• Colour space: grey • Density (20°C) [g/cm³]: 0,94 • Base oil: synthetic • Thickener: inorganic • Base oil viscosity (40°C) [mm²/s]: 220 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 3200 • Operating temperature [°C]: -30 to 200; Dry lubrication up to 650



TUNAP

H1 maintenance programme for the food industry



Cleaner

TUNCLEAN FDB			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Physiologically safe NSF H1 and K1 registered cleaner for maintenance, repair and assembly	• Colourless, transparent, non-discolouring • Removes oils, resin crusts and silicone residues • Good creep properties • Good compatibility with common plastics • Vaporises residue-free	• Cleaning and temporary lubrication in physiologically sensitive areas • For maintenance, repair and assembly with extreme grease residues	• Colour space: colourless, clear • Density (20°C) [g/cm³]: 0,74 • Flash point [°C]: > 36 • Evaporation rate: 60



Multifunctional oil

TUNGARD H1			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Synthetic high-performance oil for the food industry	• Non-discolouring • Reduces wear • Good creeping properties • Non-ferrous metal corrosion protection • Good oxidation and ageing protection • Contains no white oil/mineral oil • n-hexane free • High flash point • Excellent corrosion protection	• Lubrication and maintenance of joints, chains, seals and all moving parts • As a release agent • As corrosion protection • All applications where the use of physiologically harmful products based on mineral oil, critical additives and/or critical solvents is not desired • All applications where the use of flammable products is not desired	• Colour space: colourless, clear • Density (20°C) [g/cm³]: 0,823 • Flash point [°C]: > 61 • Kinematic viscosity (40°C) [mm²/s]: 150



TUNAP

H1 maintenance programme for the food industry



Grease spray

TUNFLUID TAC 2000 – FULLY SYNTHETIC ADHESIVE LUBRICANT			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
H1 fully synthetic adhesive lubricant for the food processing industry	• Colourless, transparent, non-discolouring • Precise aerosol application with strong adhesive effect • Versatile multifunctional oil with very good sealing and corrosion protection • Physiologically harmless, synthetic adhesive lubricant for the food, beverage and pharmaceutical industries. • Water resistant • Optimal protection against wear, corrosion, non-ferrous metal corrosion and oil deterioration • High creeping capabilities • High operational reliability even under extreme conditions	Lubrication of chains, ropes, open drives, levers, joints, linkages, hinges, sliding points and bearings where there is a risk of direct contact between the lubricant and foodstuffs: • Filling machines, packaging machines, capping machines, chains and conveyors, gearboxes • Joints, pistons, guides, tube tracks and plain and roller bearings	• Colour space: colourless, clear • Density (20°C) [g/cm³]: 0,816 • Flash point [°C]: > 200 • Pourpoint [°C]: -6 • Kinematic viscosity (40°C) [mm²/s]: 2000

Lubricating grease

TUNGREASE CP-X/50 – FULLY SYNTHETIC HIGH PERFORMANCE GREASE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Dynamically light, fully synthetic H1 high-performance grease with high wear and corrosion protection	• High pressure absorption capacity enables optimum wear protection and thus extends component service life • Exceptional water resistance and high corrosion protection allow reliable lubrication even under the influence of water or in outdoor applications • Versatile high-performance lubricating grease to support grease variety reduction in the food, beverage and pharmaceutical industries • Oxidation and shear stable for a long grease life	Speciality lubricating grease for a wide range of operating conditions in the food, beverage and pharmaceutical industries: • For loaded rolling and plain bearings, joints and other sliding pairs on machines and systems, e.g. at filling stations, autoclaves, deflector wheels Fans and ovens • Linear guides and drives Also for applications outside the food industry where water resistance, a wide temperature range and/or high loads are the decisive criteria or special regulations require the use of non-critical lubricants	• Colour space: beige • Density (20°C) [g/cm³]: 0,94 • Base oil: PAO • Thickener: calcium sulphonate complex soap • Drop point [°C]: > 270 • Base oil viscosity (40°C) [mm²/s]: 50 • NLGI class (DIN 51818): 00, 0, 1 und 2 • Four-Ball test (DIN 51350-2) [N]: 4200 • Operating temperature [°C]: -40 to 140
Suitable cleaners: TUNCLEAN 700 TUNCLEAN FDB 915			



Assembly and release paste

TUNPAS H1 – HIGH PERFORMANCE GREASE PASTE			
PRODUCT DESCRIPTION	ADVANTAGES	APPLICATION AREA	TECHNICAL DATA
Fully synthetic, high-performance, white, paste with NSF H1, based on high-quality solid lubricants	• For reliable assembly of screws thanks to constant preload forces • Particularly suitable for easy disassembly of parts treated with it, even after long periods of operation and under extreme conditions • Adhesive and resistant to water • Excellent corrosion protection • Reliable wear protection • Prevents stick-slip, even at low sliding speeds	• For the lubrication and separation of components in the food and beverage industry that are exposed to high static and dynamic loads. These include, e. g., screw connections as well as sliding guides, plain bearings and screw drives. • Assembly and disassembly work is made easier, fretting corrosion is prevented. • The paste has good adhesion and resistance even under the influence of water.	• Colour space: white • Density (20°C) [g/cm³]: 1,12 • Base oil: synthetic • Thickener: calcium sulphonate complex soap • Drop point [°C]: > 280 °C • Base oil viscosity (40°C) [mm²/s]: 220 • NLGI class (DIN 51818): 2 • Four-Ball test (DIN 51350-2) [N]: 6000 • Operating temperature [°C]: -45 to 200; Dry lubrication up to 800
Suitable cleaners: TUNCLEAN 700 916			

TUNAP

Maintenance programme – Overview



Cleaners

Our cleaners reliably remove stubborn soiling and minimise the health risks to your employees.



Lubricating greases

Our portfolio includes a wide range of high-quality lubricating greases for professional use and a wide variety of operating conditions. From multifunctional greases to special greases for the most demanding requirements, we adapt to your needs.



Multifunctional oils

Our multifunctional oils are tailored to your application and provide good lubrication, creep behaviour or corrosion protection, depending on the requirements.



Pastes

Our pastes ensure the smooth operation of your machines and systems. The spectrum ranges from the universally applicable assembly paste to the high-temperature screw paste.



Adhesive oils

We use our adhesive oils to lubricate a wide variety of applications that place high demands on adhesive behaviour, such as conveyor systems, chains and hinges.



TUNAP

Maintenance programme for industrial applications – Service overview

	Cleaner	Multifunctional oil	Adhesive oil	Lubricating grease paste	
				TUNGREASE CPR	TUNPAS MS
Creeping ability	TUNCLEAN 895 • • •	100 • •	TUNFLUID HT 2200 •	•	•
High-pressure resistance	/	•	• •	• • •	• • •
Temperature resistance	/	•	• •	• •	• • •
Corrosion protection	/	•	• •	• • •	• • •
Adhesive strength	/	•	• • •	• •	• • •
Long-term effect	/	• •	• •	• • •	• • •
Wear protection	/	• •	• •	• • •	• • •
Container size	500 ml	400 ml	500 ml	400 ml	100 g, 1 kg, 25 kg

TUNAP

H1 Maintenance programme for the food Industry – Service overview



	Cleaner	Multifunctional oil	Adhesive oil	Lubricating grease paste	
				TUNGREASE CP-2/50	TUNPAS H1
Creeping ability	TUNCLEAN FDB • • •	TUNGARD H1 • •	TUNFLUID TAC 2000 •	•	•
High-pressure resistance	/	•	• •	• • •	• • •
Temperature resistance	/	•	• •	• •	• • •
Corrosion protection	/	•	• •	• • •	• • •
Adhesive strength	/	•	• • •	• •	• • •
Long-term effect	/	• •	• •	• • •	• • •
Wear protection	/	• •	• •	• • •	• • •
Container size	500 ml	400 ml	500 ml	400 ml	100 g, 1 kg, 25 kg

TUNAP

Packaging sizes

Consultancy, development and production from a single source

We supply you with optimised containers so that you can design your processes effectively and cost-efficiently. We offer customised solutions that are precisely tailored to your needs. Our range of containers offers flexibility and guarantees efficiency and economy, saving resources and the environment, as well as reducing your in-house stock levels.

Depending on the product line, various containers are ready for use as required:

- ✓ Tube
- ✓ Aerosols
- ✓ Cartridge
- ✓ Hobcock
- ✓ IBC
- ✓ Cans
- ✓ Bottles
- ✓ Canister
- ✓ Barrel

We work with you to develop and produce your own brand.

We are also happy to work with you to develop product solutions tailored to the needs of your target group. Whether highly specialised or cost-optimised lubricating greases, oils and pastes, cleaners or additives of the highest quality - we supply what you need. As a manufacturer with our own aerosol filling facility, we have extensive knowledge of a wide range of application methods and packaging forms. This allows you to benefit from the optimum combination of product and application for your particular application.



TUNAP works.

We are at your disposal with help and advice to answer your questions and support you in selecting the right products, container sizes and packaging forms. We look forward to working with you and offering you high-quality lubricants and optimised solutions that meet your requirements.

We focus on your individual needs:



Dispenser
100 g



Tubes
20 ml up to 300 ml



Cartridges
400 g / 500 g



Two-chamber cans / bag on valve



Bottles
30 ml up to 1000 ml



Single bag
3 g up to 20 g

TUNAP

Common packaging sizes



100 g



400 ml



500 ml



400 g / 800 g



1 L



1 kg



20 L



25 kg



160 - 180 kg / 200 L



For 50 years, the TUNAP Group has been an internationally operating manufacturer of aerosols and active ingredients for industrial and technical applications.

Research, development, production and sales from a single source: TUNAP systems maintain, protect and combine innovative chemistry with high sustainability standards.



We look forward to seeing you.

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With friendly recommendation