temix Oleo

products from renewable sources

LUBRICANTS BASE STOCK

PRODUCTS FROM RENEWABLE SOURCES

ESTERIFYING IS OUR ATTITUDE

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Enhancing your Natural portfolio

Temix Oleo was formed in October 2014 by the merger of Oleochimica Italia (previously Undesa Italia) and Temix International. Given its roots, the new company is based in strong historical traditions and values, while offering extensive expertise in the respective industries of its predecessors: detergents and cosmetics (Temix international), and lubricants, rubber and other industrial application products (Oleochimica Italia).

Honouring Temix International's slogan "Enhancing your natural portfolio", Temix Oleo combines its experience in the distribution of raw materials, selected mainly from renewable sources, together with the technology and experience of Oleochimica Italia in esters and fatty acids production.

Real sustainability

Now a well-known resource for speciality oleochemical esters, Temix Oleo focused on sustainable chemistry, promoting the use of selected renewable and biodegradable raw materials. Even internally, Temix Oleo promotes eco-compatible business management practices, encouraging its team to continually seek innovative, sustainable and qualitative solutions.

Research and Development

With an ever-changing market, the ability to innovate is paramount. Temix Oleo continually invests in technological innovation, particularly through its Research and Development efforts.

Customized products

Temix Oleo has the ability to develop tailor-made products designed to meet each customer's needs. For more information on the technical details of this process, our sales office would be happy to help you.

OUR PRODUCT RANGE IS BASED ON SEVERAL RAW MATERIALS:

Methyl Alcohol
Isopropyl Alcohol
Ethylhexyl Alcohol
Isodecyl/ n-Decyl Alcohol
Isotridecyl / Tridecyl Alcohol
Neopentylglycol
Glycerol
Trymethyl Propanol Alcohol
Pentaerythityl Alcohol
PEG
Phthalic Anhydride
Trimellitic Anhydride
Caprylic Acid
Pelargonic Acid
Capric Acid
Caprylic/Capric Acid
Lauric Acid
Coconut Acid
Palmitic Acid
Stearic Acid
Oleic Acid
Adipic Acid
Azelaic Acid
Sebacic Acid

ESTERS FOR LUBRICANTS

Temix Oleo has been producing highly biodegradable Esters derived mainly from Fatty Acid and from renewable raw materials for a long time. Most of them keep the advantages of their raw materials (natural fats and oils), as a consequence they are non-toxic and non-irritating. Theoretically, the number of possible sters and combinations of functions they can offer is unlimited.
We are able to satisfy the needs of a high number of application fields and in particular Lubricant applications.
As far as we know, lubricants play a key role in our ordinary life to improve safey of machinery and tools we use daily.

Their main tasks are:

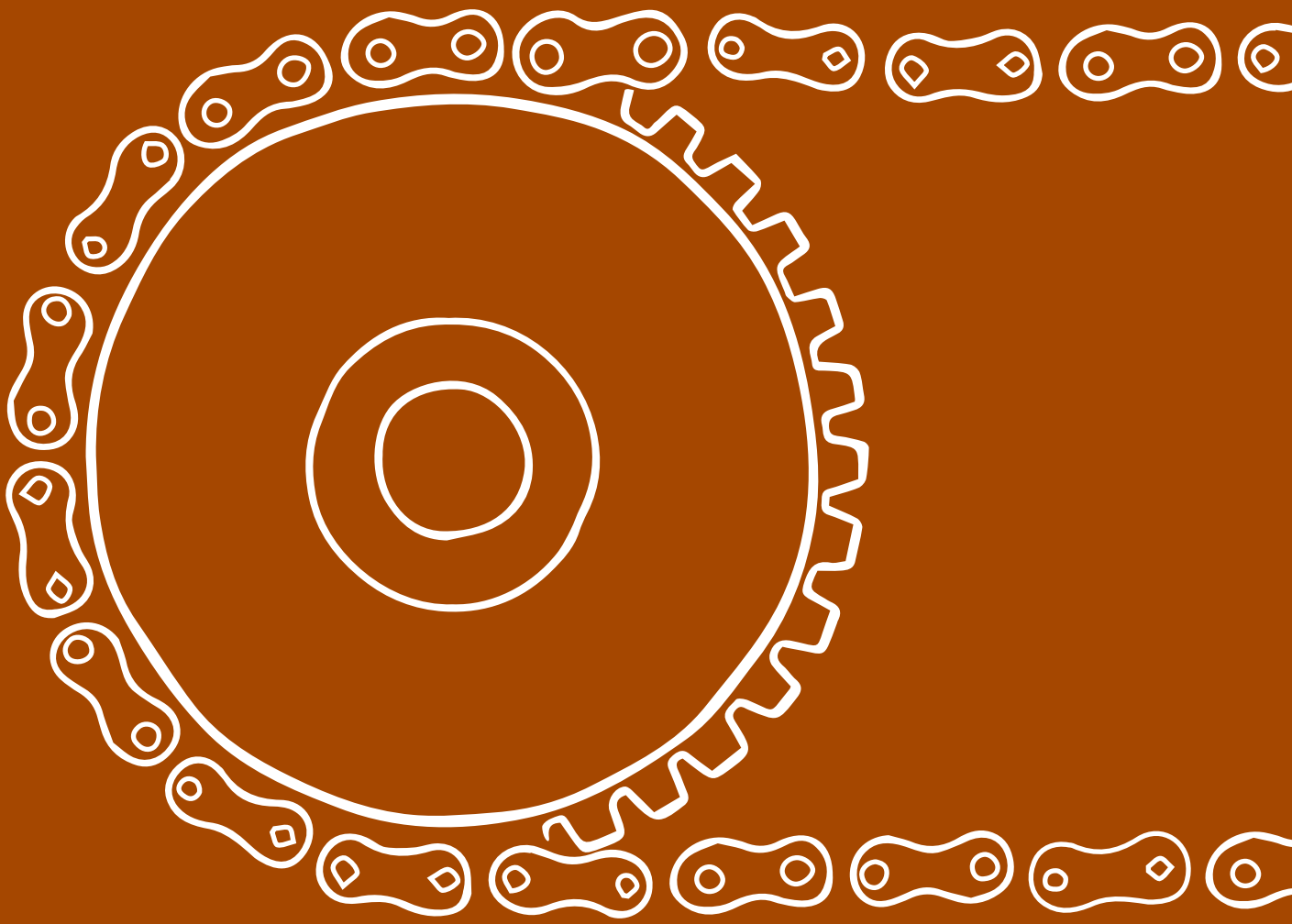
- to keep moving parts apart from each other,
- to take heat out of the contact by their through pass,
- to keep surfaces clean,
- to transport functional additives toward the surface,
- to transfer power in the application.

Due to their high variety in structure Esters are used in different categories:
Mono Esters are seldom used as pure lubricant, more as solvents or dispersants.

Di Esters are an important group of oils and they are used for example as adjuvant to mineral oil but there are derivatives are not important in lubrication technologies to be used as friction reducer and in minimal lubrication system.

PolyEsters represent the huge group. In this class of products we can find Esters with good biodegradtion, but we can meet also interesting Esters used to reduce the fricion in tribological application.

PRODUCTS FROM RENEWABLE SOURCES



ESTERIFYING IS OUR ATTITUDE

MONO ESTERS

METHYL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST A20	Caprylic/Capric Methyl Ester	1,5	-39	80	30 (APHA)	0,3
TEMEST A85	Soya Methyl Ester	5	-15	180	3 (Gardner)	105
TEMEST A6055	Stearic/palmitic Methyl Ester	6,1	5	180	30 (APHA)	67

ISOPROPYL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST C95	Isopropyl Isostearate	3	-10	140	100 (APHA)	1
TEMEST C40	Isopropyl Laurate	3,5	-10	> 120	50 (APHA)	2
TEMEST C65	Isopropyl Oleate	5,9	-11	140	3 (Gardner)	80

BUTYL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST E60	Butyl Stearate	6	18	160	2 (Gardner)	1
TEMEST D65	Isobutyl Oleate	6,2	-20	160	2 (Gardner)	80
TEMEST E65	Butyl Oleate	6,6	-18	160	1 (Gardner)	80
TEMEST D60	Isobutyl Stearate	7	20	180	100 (APHA)	1
TEMEST E05	Di Butyl Adipate	7	-30	136	1 (Gardner)	1

ISOTRIDECYL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST M40	Iso Tridecyl Laurate	9,9	-39	>240	60 (APHA)	1
TEMEST M60	Iso Tridecyl Stearate	16	0	>240	80 (APHA)	2
TEMEST M65	Iso Tridecyl Oleate	16	-15	>240	6 (Gardner)	60

ETHYLHEXYL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST 2EHL	2 Ethylhexyl Laurate	5	-30	170	20 (APHA)	1
TEMEST 2EHC	2 Ethylhexyl Cocoate	6	-20	170	100 (APHA)	10
TEMEST J65S	2 Ethylhexyl Oleate	8,5	-20	240	0,5 (ASTM)	60
TEMEST J65SA	2 Ethylhexyl Oleate	8,5	-20	240	0,5 (ASTM)	60
TEMEST J70	Fatty Acid C16-18 & C18 unstd 2 Ethylhexyl ester	8,5	-9	210	1 (Gardner)	38
TEMEST J60	Fatty Acid C16-18 & C18 unstd 2 Ethylhexyl ester	9	-5	190	4 (Gardner)	30
TEMEST 2EHS	2 Ethylhexyl Stearate	9,1	7	220	(APHA)	2
TEMEST 2EHP	2 Ethylhexyl Palmitate	9,1	-3	210	20 (APHA)	1
TEMEST J110	2 Ethylhexyl Azelate	10	-50	230	100 (APHA)	1
TEMEST J100	Tris (2 Ethylhexyl Trimellitate)	84	-50	260	50 (APHA)	0,5
TEMEST J200	2 Ethylhexyl Dimerate	94	-35	260	8 (Gardner)	60

PEG ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST R66	PEG-200 Monoleate	34	5	>220	3 (Gardner)	55
TEMEST S65	PEG-400 Dioleate	46	0	310	4 (Gardner)	55
TEMEST S66	PEG-400 Monoleate	52	5	>220	5 (Gardner)	45
TEMEST S05	PEG-400 Adipate	1200	-10	>220	5 (Gardner)	1

SORBITAN ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST Q65	Sorbitan Monooleate	1000	0	280	8 (Gardner)	75

DI-ESTERS

NEOPENTYLGLYCOL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST F65	Neopentylglycole Oleate	24	-25	270	4 (Gardner)	85
TEMEST HF65	TMP & Neopentylglycole Oleate	32	-25	285	4 (Gardner)	80

ADIPATES

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST L05	Iso Decyl Adipate	15	-55	216	20 (APHA)	0
TEMEST M05	Iso Tridecyl Adipate	27	-45	230	50 (APHA)	0
TEMEST J05	bis (2 ethylhexyl) Adipate	8	-60	207	20 (APHA)	0
TEMEST E05M	DBE	5	n.a	136	1 (Gardner)	0
TEMEST A05M	DBE	5	n.a	132	1 (Gardner)	0

PHTHALATES GLYLUB® SERIES (THE SERIES GLYLUB® IS A TRADEMARK OF CONDENSIA QUIMICA SA)

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
Glylub® 29	di (Iso Decyl) Phthalate	39	-48	231	20 (APHA)	0
Glylub® 39	di (Iso Tridecyl) Phthalate	85	-42	254	50 (APHA)	0

SEBACATES (THE SERIES GLYLUB® IS A TRADEMARK OF CONDENSIA QUIMICA SA)

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST J30	di (2ethylhexyl) Sebacate	11.5	-60	218	70 (APHA)	0
Glylub® 24	di (Iso Decyl) Sebacate	21	-60	250	80 (APHA)	0
Glylub® 34	di (Iso Tridecyl) Sebacate	34	-60	234	80 (APHA)	0

POLY-ESTERS

GLYCEROL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST 810	Caprylic/Capric Tryglicerides	15	-15	240	20 (APHA)	0,3
TEMEST N65	Glycerides, C16-18 C18 uns	37	-3	280	4 (Gardner)	90
TEMEST GMO	Glyceril Monoleate	75	15	180	4 (Gardner)	70
TEMEST N85	Glycerides C16-18 C18 uns	80	0	240	6 (Gardner)	100

GLYLUB® SERIES (TRIMELLITATES)

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST J100	tris (2 Ethylhexyl) Trimellitate	9,5	-30	259	85 (APHA)	0
Glylub® 13	tris (C8-C10) Trimellitate	54	-45	218	80 (APHA)	0
Glylub® 23	tris (Iso Decyl) Trimellitate	140	-28	280	80 (APHA)	0
Glylub® 33	tris(Iso Tridecyl) Trimellitate	300	-13	250	70 (APHA)	0

TMP

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST H20	TMP C8-C10	20	-47	270	150 (APHA)	0,5
TEMEST H35	TMP C9	21	-48	255	100 (APHA)	1
TEMEST H45 Series	TMP Cocoate	32-220-320-460-900	min -6	300	100 (APHA)	10

TMP OLEATE

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST H65S	TMP Oleate	46	-42	300	0,8 (ASTM)	90
TEMEST H65V	TMP Oleate	46	-12	300	0,8 (ASTM)	78
TEMEST H65SV	TMP Oleate	46	-42	300	0,8 (ASTM)	78
TEMEST H6505	TMP Complex esters	68	-24	300	0,8 (ASTM)	78
TEMEST H6505S	TMP Complex esters	68	-42	300	0,8 (ASTM)	78
TEMEST H6506	TMP Complex esters	460	-42	300	0,8 (ASTM)	78
TEMEST H6507	TMP Complex esters	320	-42	300	0,8 (ASTM)	78
TEMEST H6508	TMP Complex esters	680	-42	300	0,8 (ASTM)	78
TEMEST H6509	TMP Complex esters	220	-42	300	0,8 (ASTM)	78
TEMEST H65100	TMP Complex esters	100	-42	300	0,8 (ASTM)	78
TEMEST H65150	TMP Complex esters	150	-42	300	0,8 (ASTM)	78
TEMEST H6505P	TMP Complex esters	1500	-42	300	0,8 (ASTM)	78
TEMEST H65SS	TMP Oleate	46	-50	300	0,8 (ASTM)	78
TEMEST H65LT	TMP Oleate	46	-42	300	0,8 (ASTM)	78

PENTAERYTHRITYL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST G 25	PE C8-C10	30	-25	290	1 (ASTM)	1
TEMEST G65	PE Oleate	60	-20	290	1 (ASTM)	85
TEMEST G6505	PE complex ester	110	-20	300	3 (ASTM)	85
TEMEST G95	PE Isostearate	150	-20	270	80 (APHA)	0,5
TEMEST GG6506	PE complex ester	350	-5	290	3 (ASTM)	85
TEMEST G6506	PE complex ester	450	-5	290	3 (ASTM)	85

SPECIAL ESTERS

Natrilox

LEAD TO SUSTAINABLE INNOVATION

Temix Oleo daily pursues the creation of sustainable business management and an Eco-compatible internal process, which lead to re-thinking of suitable, sustainable and qualitative solutions.

OUR PELARGONIC ESTERS ARE BASED ON 100% VEGETABLE AND RENEWABLE SOURCES

PELARGONIC ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST F35	Neo pentylglycole Pelargonate	8,5	-36	218	100 (APHA)	1
TEMEST J35	2 Ethylhexyl Pelargonate	10,5	-59	210	100 (APHA)	1
TEMEST H35M	C5-C9 Pelargonate	17	-65	212	100 (APHA)	1
TEMEST H35	TMP Pelargonate	20,5	-48	241	100 (APHA)	1
TEMEST G35M	C5-C9 PE	26	-36	245	100 (APHA)	1
TEMEST H4535	TMP Complex Ester	40	-20	275	100 (APHA)	1
TEMEST H3505	TMP Complex Ester	350	-51	232	100 (APHA)	1

SATURATED ESTERS

ISOTRIDECYL ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST M40	Iso Tridecyl Laurate	9,9	-39	>240	60 (APHA)	1
TEMEST M60	Iso Tridecyl Stearate	16	0	>240	80 (APHA)	2

ETHYLHEXYL ESTERS

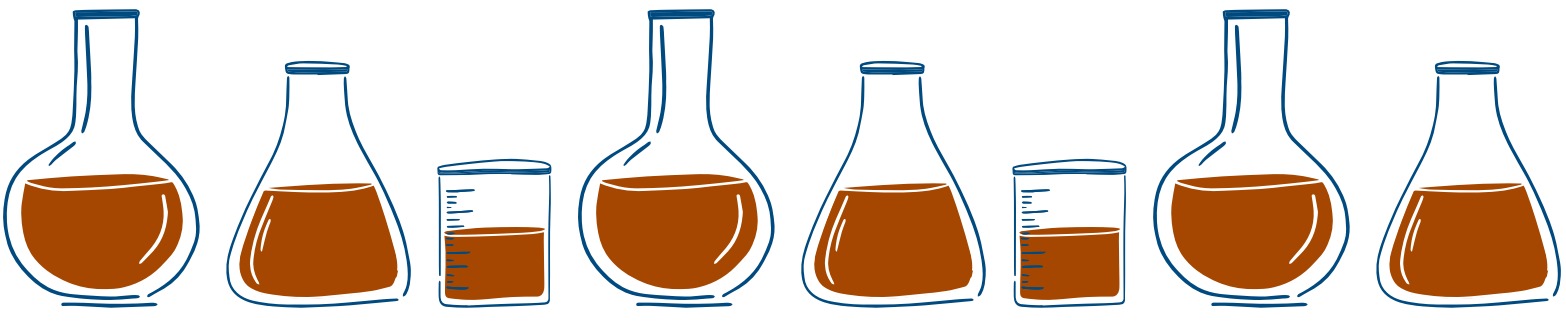
Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST 2EHL	2 Ethylhexyl Laurate	5	-30	170	20 (APHA)	1
TEMEST 2EHC	2 Ethylhexyl Cocoate	6	-20	170	100 (APHA)	10
TEMEST 2EHP	2 Ethylhexyl Palmitate	9,1	-3	210	20 (APHA)	1
TEMEST J110	2 Ethylhexyl Azelate	10	-50	230	100 (APHA)	1
TEMEST J100	Tris (2 ethylhexyl) Trimellitate	84	-50	260	50 (APHA)	0,5

TMP

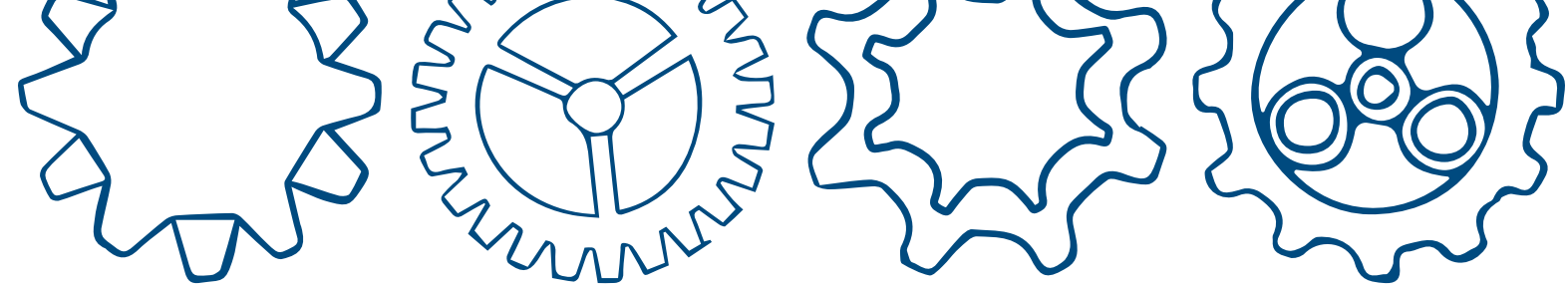
Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST H20	TMP C8-C10	20	-47	270	150 (APHA)	0,5
TEMEST H35	TMP C9	21	-48	255	100 (APHA)	1
TEMEST H45 Series	TMP Cocoate	32-220-320-460-900	min -6	300	100 (APHA)	10

COMPLEX ESTERS

Product	Chemical Descriptions	cSt 40 °C	Pour Point (°C)	Flash Point (°C)	Color	Iodine Value (gI_2/100g)
TEMEST MH05	Complex ester	46	-30	260	0,5 (ASTM)	1
TEMEST MH06	Complex ester	68	-25	260	0,5 (ASTM)	1
TEMEST MH07	Complex ester	100	-20	260	0,5 (ASTM)	1
TEMEST MH08	Complex ester	450	-20	260	0,5 (ASTM)	1
TEMEST U05/8	Complex ester	2000	-20	260	0,5 (ASTM)	1
TEMEST U05/7	Complex ester	11450	-20	260	0,5 (ASTM)	1
TEMEST G6055HVK	Complex ester	47000	-20	260	0,5 (ASTM)	1



LUBRICANTS APPLICATIONS GUIDELINE 2019



INNOVATING IN A CHALLENGING ENVIRONMENT

Today's environment demands that lubricants meet unique durability, compatibility and performance requirements. Whether it's improving performance through reduced energy consumption, prolonging equipment service life, reducing parts replacement and downtime, or complying with strict environmental regulations and worker safety requirements, there are challenges to deliver high-performing and application-compatible solutions. Where can you find the lubricant esters and technical expertise to help you create the right combination of chemistry and performance to meet your needs?

YOUR SUCCESS WITH OUR SOLUTIONS

We recognise that ester chemistry for lubricant formulation is not a one-size fits-all approach. Standard products can sometimes fall short in meeting all of your specific performance requirements. At TemixOleo, we close the gap by working closely with our customers to understand their needs and develop cost-effective, customised solutions. The combination of TemixOleo's broad chemistry portfolio and custom product approach offers the versatility needed to fill the void left by backward integrated suppliers who may not be concerned with what you really need. We have the desire and capability to help you meet application-specific durability, biodegradability, viscosity and temperature performance requirements. When you collaborate with TemixOleo, you can leverage our ester expertise along with our manufacturing agility and flexibility to help you to develop custom speciality solutions especially for modest annual volume requirements and temperature performance requirements.

APPLICATION GUIDE SUMMARY:

	Industrial Gear	Hydraulic Fluid	Turbine & Compressor	Metal working	High temperature Oil	Engine Oil	Refrigerator Oil
TEMEST 2EHC				✓			
TEMEST 2EHL				✓			
TEMEST 2EHP				✓			
TEMEST J65S				✓ (EMU)			
TEMEST F65		✓					
TEMEST HF65		✓					
TEMEST L05			✓				
TEMEST M05			✓				✓
TEMEST H35 series	✓	✓	✓			✓	✓
TEMEST H20 series	✓	✓	✓			✓	✓
TEMEST H45 series	✓	✓	✓				✓
TEMEST H65S		✓					
TEMEST H6508		✓					
TEMEST M40				✓			
TEMEST 6095HVK				✓			
TEMEST MH08				✓			
GLYLUB 29			✓				
GLYLUB 39			✓				
GLYLUB 33			✓		✓	✓	
GLULUB 23			✓		✓	✓	
GLYLUB 13			✓		✓	✓	

HYDRAULIC FLUID

In general, hydraulic fluid characteristics have these primary functions and properties:

- Transferring pressure and motion energy;
- Transferring forces and moments when used as a lubricant;
- Minimization of wear to sliding surfaces under boundary friction conditions;
- Minimization of friction;
- Protection of components against corrosion (ferrous and non-ferrous metals);
- Dissipation of heat;
- Suitability for a wide range of temperatures, good viscosity-temperature behavior;
- Prolonging the life of machinery, etc.

The wide variety of different characteristics required of hydraulic fluids necessitate special performance, which cannot be satisfied by just one base oil. In our product portfolio, we have esters for extended life applications or products suitable for fire-resistant application:

LONG LIFE

The required fluid life, availability, economic and ecological factors also determine the type of hydraulic oil used.

FIRE RESISTANT

These fluids have significantly higher ignition temperatures or fire-resistant properties and thus afford better fire protection than mineral oils.

MAIN PROPERTIES

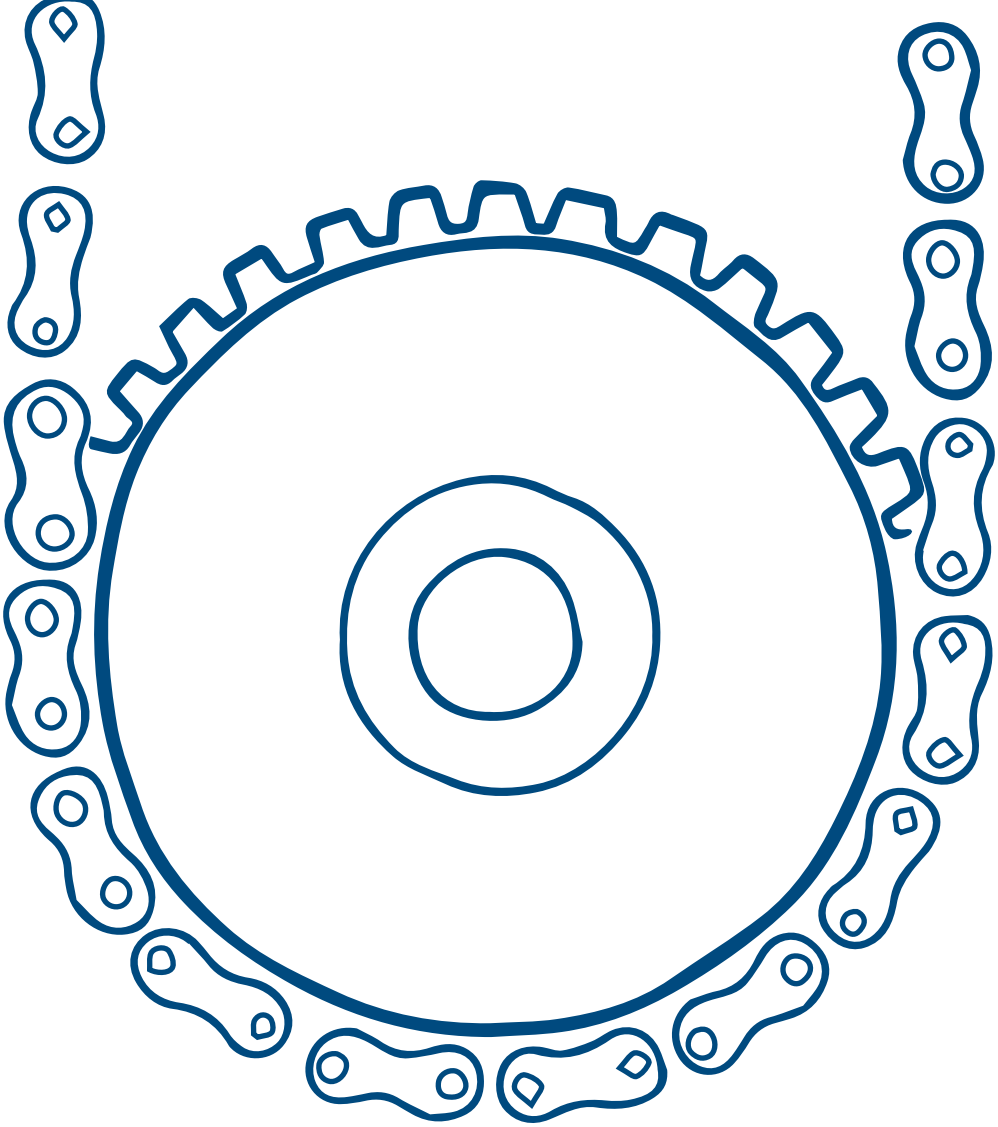
Low viscosity
Saturation assures long stability
High flash point
Unsaturated
Fire resistant
Excellent lubricity
Poor thermos-oxidation stability

OUR MAIN PRODUCTS

TEMEST H35
Completely saturated
Extremely high thermos-oxidation stability
Extremely low Flash Point

TEMEST H45
Almost saturated
Excellent thermos-oxidation stability
Excellent rate quality/price
Moderate pour point

TEMEST H65 ISO VG 46
TEMEST H6505 ISO VG 68
TEMEST H65 SERIES
(with the viscosity when more than 68 cSt at 40°C).
*very low pour point
TEMEST F65
TEMEST HF65

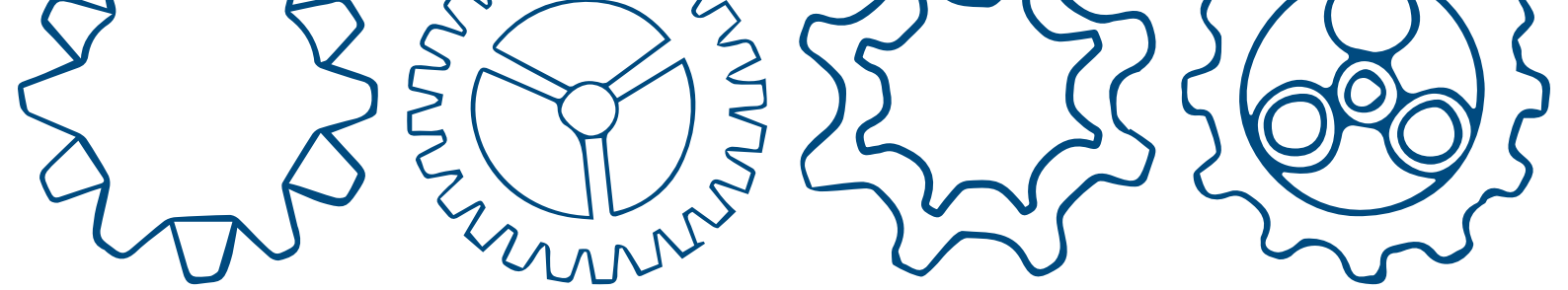


CHAIN OIL

To work properly, chainsaw chains and bars must be lubricated. In particular for high temperature chain oil, the base oil must be selected with the following properties:

- Stability at high-temperature
- Flash point
- A tendency to avoid the formation of sludge

THE PRODUCTS SELECTED ARE:
1° GLYLUB 23 and GLYLUB 33 that have very low deposit and sludge
2° TEMEST H35 series with high temperature stability
3° The best solution is a 50:50 mixing of the products at point 1 and 2



METALWORKING FLUID

Different conditions influence the life of a metal tool: one is the process temperature to which it is subject. In-order to extend tool life, it is necessary an efficient cooling, to lower the temperature and good lubrication in the contact area, to reduce friction. For this purpose, we use coolants, whose functions are as follows:

Cool down: keep the temperature in the cut area constant, removing the heat caused by machining the tool, to avoid deformation of the piece.
Lubricate the contact area between the chip and the tool chest, thus reducing the cutting forces caused by friction between piece, chip and tool.
Cleanse with the cleaning of the work area and the control of the work in progress.

These three functions generate energy savings, lower tool wear and therefore overall reduction of total costs. For a cutting fluid, it is mainly required an excellent lubrication and a great cooling capacity. Furthermore, numerous other features must be taken in consideration, which:

- Cutting fluid must not produce side effects, such as odors or allergic reactions.
- It must not produce foam even at high pressures.
- It must not dissolve the paints of the machine tool and must not corrode the gaskets.
- It must not cause corrosion on most of the materials from which the piece can be made in such a way that different materials can be processed without the need to change the type of refrigerant.

It is very important to consider the risk of corrosive attack with non-ferrous materials, as for example of copper, brass and aluminium; it must not adhere causing the agglomeration of the shavings, consequently making the cleaning of the tank more difficult or ruining the surface of the piece.

OUR MAIN PRODUCTS FOR WATER-BASED FORMULATION

Several esters are suitable to use in metalworking fluid as grinding, tapping or drilling.

For water-based formulation, we select :
TEMEST J65 2-Ethylhexyl Oleate

We select a series of saturated esters, with high stability to oxidation, hydrolysis and excellent proprieties for metalworking application.
5 cSt 2-Ethylhexil Laurate **TEMEST 2EHL**
8 cSt 2-Ethylhexil Palmitate **TEMEST 2EHP**
9,9 cSt Isotridecyl Laurate **TEMEST M40**
20,5 cSt 2-Ethylhexil Pelargonate **TEMEST H35**
15 cSt Di isodecyl Adipate **TEMEST L05**
6 cSt 2-Ethylhexil Cocoate **TEMEST 2EHC**

We suggest 2 saturated products at high viscosity to improve the viscosity to 68 cSt.
TEMEST MH08 complex ester at 460 cSt
TEMEST H45460 complex ester at 460 cSt

This based oil has been tested for a wide range of applications and for any materials with excellent result.

OUR MAIN PRODUCTS
FULL ADDITIVATED SOLUTIONS

We develop also a full additivated product based on refined vegetable oil from renewable resources. 36 cSt Vegetable-base cutting fluid TEMEST CUT VEG.

MAIN ADVANTAGES

Vapor tension generated by esters is much lower than the Vapor tension generated by mineral oils.

NO EXPOSURE LIMITS
(Mineral oil has TLV: 5 mg/m³ according to ACGIH).

HIGH SANITATION TOLERABILITY:
TEMEST CUT VEG does not irritate the skin or the respiratory system.

GREATER COOLING CAPACITY:
The specific heat of TEMEST CUT VEG is greater than that of mineral oil.

HIGH FLASH POINT:
TEMEST CUT VEG allows unattended performance of mechanical processing.

HIGH FIRE POINT.

HIGH SMOKE POINT.

Esters allow for an increase in productivity without generating mists or emissions.

Long chain vegetable oils are not explosive at atmospheric pressure in any proportion with air.

REFRIGERATOR COMPRESSOR

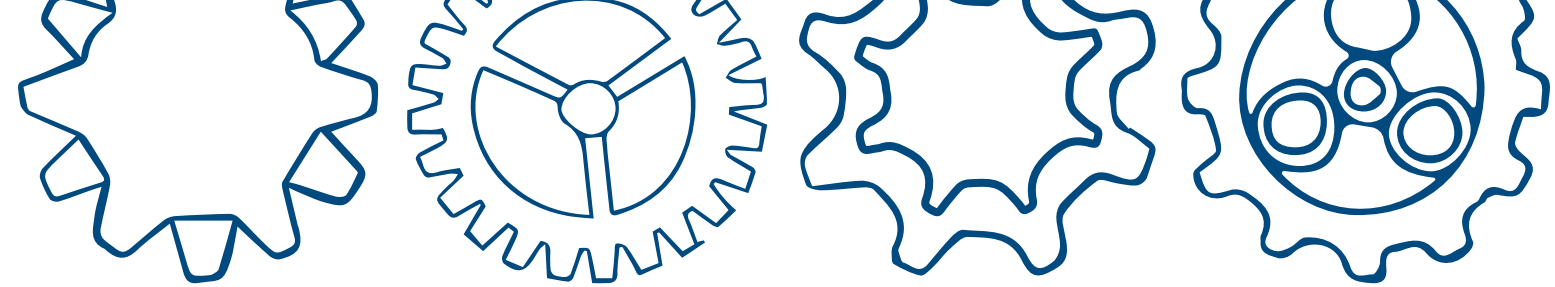
The lubrication of refrigeration compressors occupies a special position in lubrication technology. The longevity expected of refrigeration compressors is closely connected to the high quality which is required of refrigeration oils.
The interaction with other substances, which the refrigeration oil comes into contact with, and especially the extremely high and low temperatures, makes very specific demands on refrigeration oils. In our product range, we can offer some ester suitable for this application. Ester oils are suitable for all refrigerant systems but they can hydrolyze if they come into contact with water in the compressor. It is therefore essential that these products be shielded from water, and moisture in general, during storage and use. Polyol esters offer good performance in this application for the following reasons:

- Excellent solubility in FC and HFC refrigerants.
- Avoidance of oil build-up in the condenser/evaporator.
- Constant thermal conductivity.
- High natural Viscosity Index, good viscosity-temperature behaviour and thus adequate lubrication at high temperatures.
- Very good thermal and chemical stability even in the presence of refrigerants.
- Excellent flowing properties at low temperatures.
- Long oil life.
- Compatibility with all commonly-used sealing materials such as NBR, HNBR, EPDM and others.

The products are ultra-dried.

Polyol esters are hygroscopic lubricants (i.e. they absorb water) which may hydrolyse over longer periods of time when their water content is >200 ppm. In our product range, we have TEMEST H 35 SERIES that is soluble in different media.

Refrigerant		H35 series
R23	HFC	
R134a		
R404A		
R407C		
R410A		
R413A		
R417A		
R422A		
R422D		
R427A		
R438A		
R507		
R508B		
R1234yf	HFO	
R1270	HC	
R744		
R22	HCFC	
R401B		
R401B		
R402A		
R402B		
R403B		
R408A		
R409A		
R416A		



GEAR OIL

The gear lubrication oil is a machine component of particular significance for gear and transmission. During operation, the lubricant comes into contact with most of the other in build machinery components. Apart from the important function of lubricating the sliding rolling contacts, the oil also fulfills the task of cooling and removing the friction heat generated in the sliding rolling contacts.
In many areas of machine designing, lubricants gears require:

- High oxidation stability,
- Good scuffing
- Scoring and wear load capacity,
- Ability to create a film thickness with an adequately high viscosity at operating temperature.

In our portfolio, we can offer synthetic esters that match the requirements for this application:

TEMEST H45 SERIES (where the last 3 figures indicate the ISO VG Viscosity).
TEMEST H4532
TEMEST H45150
TEMEST H45220
TEMEST H45320
TEMEST H45460

- Saturated
- High stability at thermos-oxidation
- High flash point
- Excellent lubricity
- Eco-friendly
- High long life than mineral

In the application, you can add the same additive used in mineral oil or PAO based products. Eventually, we can also provide products with additives.
This class of esters is completely miscible in mineral oil or PAO based products.

products from renewable sources

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