



# Ingredients for lubricants



Trading & Production  
of  
Oleochemicals  
and  
related products



*Tradition in customer relation.  
Innovation in chemistry and  
customer service.  
An extra touch with the use of  
natural and renewable raw materials.  
Looking forward to meet performance  
and cost effectiveness with relation  
to changing technologies, stronger  
regulations and new market demands.*

*The Mosselman team.*

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animal  
white oils

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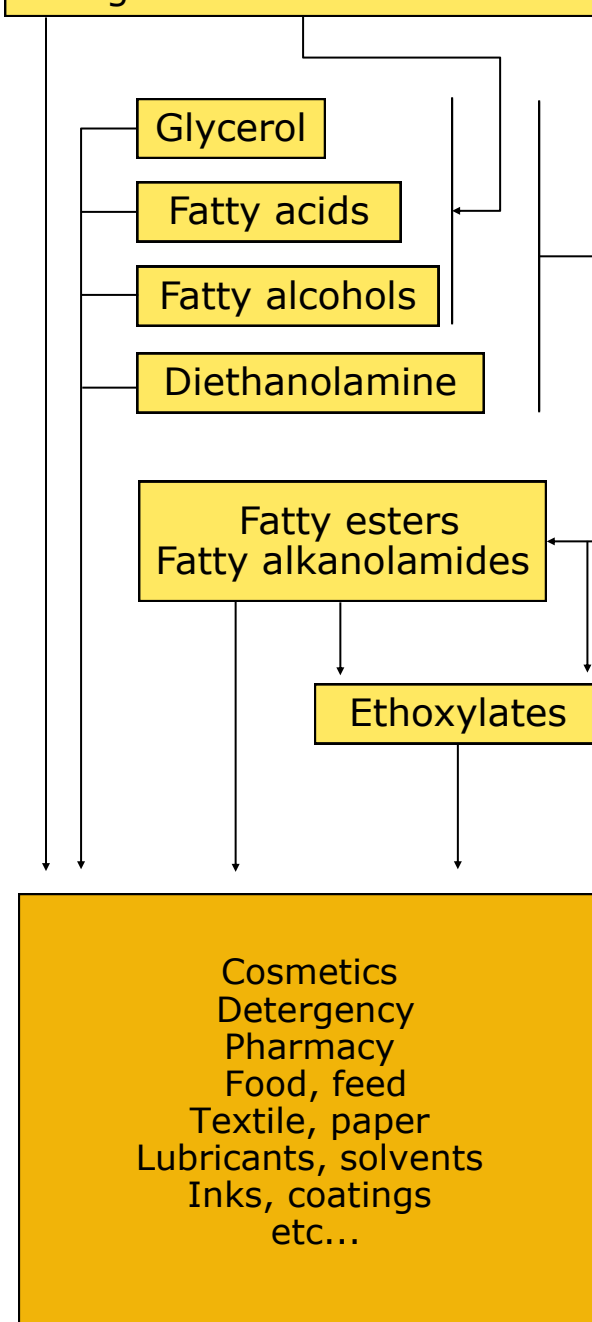
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## Vegetable oil—animal fats



| Description                                | Viscosity<br>at 40°C<br>mm²/s | Cloud<br>point<br>°C | Pour<br>point<br>C° | Iodine<br>value* | Polyol fatty esters<br>as base oils                       |
|--------------------------------------------|-------------------------------|----------------------|---------------------|------------------|-----------------------------------------------------------|
| Helilub 10 ST — TMP ester                  | 10                            |                      | -60                 | < 2              |                                                           |
| Helilub 20 SP — PE ester                   | 20                            |                      | -55                 | < 2              |                                                           |
| Helilub 24 UN — Neopentyl glycol dioleate  | 24                            |                      | <-30                | 75-95            |                                                           |
| Helilub 25 SP — PE ester                   | 25                            |                      | -55                 | < 2              |                                                           |
| Helilub 28 SP — PE tetra-C8/C10            | 28                            |                      | <-20                | < 2              |                                                           |
| Helilub 30 SP — PE ester                   | 30                            |                      | -45                 | < 2              |                                                           |
| Helilub 36 CT — TMP tricocoate             | 36                            |                      | -6                  | <18              |                                                           |
| Helilub 47 UT — TMP trioleate              | 47                            | <-20                 | <-30                | 75-90            |                                                           |
| Helilub 62 UP — PE tetraoleate             | 62                            |                      | -20                 | 75-95            |                                                           |
| Helilub 68 UT — TMP complex ester          | 68                            |                      |                     | >70              |                                                           |
| Helilub 140 SP — PE tetraisostearate       | 140                           |                      | <-20                | < 1              |                                                           |
| Helilub 150 UT — TMP complex ester         | 150                           |                      |                     | -20              |                                                           |
| Helilub 220 UT — TMP complex ester         | 220                           |                      | -20                 | >70              |                                                           |
| Helilub 460 ST — TMP complex ester         | 460                           |                      | <-20                | < 12             |                                                           |
| Helilub 500 UT — TMP complex ester         | 500                           | <-20                 |                     | >70              |                                                           |
| Helilub 680 UT — TMP complex ester         | 680                           |                      | <-15                | >70              |                                                           |
| Helilub 1000 UT — TMP complex ester        | 1000                          |                      | <-15                | >70              |                                                           |
| Helilub 1500 UT — TMP complex ester        | 1500                          |                      | <-18                | >70              |                                                           |
| Ester 610 — MCT — Glycerol tri-C8/C10      | 16                            | <-10                 | 0                   | < 1              |                                                           |
| Glycerol trioleate                         | 45                            | <-10                 |                     | 75-95            |                                                           |
| Ester PR 91 — Propylene glycol di-C8/C10   | < 9                           | -5                   | <-20                | < 0,5            |                                                           |
| Propylene glycol dioleate                  | 18                            | -13                  | -15                 | 72-85            |                                                           |
| TMP=Trimethylolpropane; PE=Pentaerythritol |                               |                      |                     |                  |                                                           |
| Butyl tallate                              | 6                             | <-5                  |                     | 150              | Monoalcohol fatty esters<br>as base oil, solvent, carrier |
| Butyl stearate                             | 7                             | 27                   | 22                  | < 1              |                                                           |
| Butyl oleate                               | 6                             | -22                  | <-25                | 68-85            |                                                           |
| Decyl oleate                               | 10                            | -16                  | <-25                | 50-65            |                                                           |
| Ethyl esters of rapeseed oil               | 4                             | <-3                  | <-5                 | 95-110           |                                                           |
| Ethyl oleate                               | 5                             | -3                   | -5                  | 75-90            |                                                           |
| 2-Ethylhexyl caprylate caprate             | 5                             | <-15                 | -55                 | <2               |                                                           |
| 2-Ethylhexyl cocoate                       | 5                             | <-25                 |                     | < 16             |                                                           |
| 2-Ethylhexyl laurate                       | 6                             | <-25                 | -30                 | < 1              |                                                           |
| 2-Ethylhexyl oleate                        | 9                             | <-26                 |                     | 57-70            |                                                           |
| 2-Ethylhexyl palmitate                     | 9                             | -1                   | <-2                 | < 1              |                                                           |
| 2-Ethylhexyl stearate                      | 10                            | 11                   | 6                   | < 1              |                                                           |
| 2-Ethylhexyl tallowate                     | 9                             | <-8                  | -9                  | 33-43            |                                                           |
| Isopropyl laurate                          | 4                             | -6                   | -7                  | < 1              |                                                           |
| Isopropyl myristate                        | 4                             | 0                    | -3                  | < 1              |                                                           |
| Isopropyl oleate                           | 6                             | <-23                 | -15                 | 65-86            |                                                           |
| Isopropyl palmitate                        | 5                             | <13                  | 12                  | < 1              |                                                           |
| Methyl esters C12-C14                      | 4                             | -2                   | -4                  | < 3              |                                                           |
| Methyl esters C16-C18                      | 5                             | 5                    | -8                  | 56-75            |                                                           |
| Methyl esters of coconut oil               | 3                             | -5                   | -6                  | < 21             |                                                           |
| Methyl esters of sunflower oil             | 4                             | -4                   | -5                  | 115-145          |                                                           |
| Methyl esters of rapeseed oil              | 4                             | -12                  | -15                 | 105-125          |                                                           |
| Methyl esters of soybean oil               | 4                             | -2                   | -4                  | 120-140          |                                                           |
| Methyl esters of tall oil                  | 4                             | <-10                 |                     | 130-160          |                                                           |
| Methyl esters of tallow                    | 5                             | 12                   | 15                  | 35-65            |                                                           |
| Methyl caprylate-caprate                   | 1-2                           | <-23                 |                     | < 0,5            |                                                           |
| Methyl laurate                             | 3                             | 6                    | 5                   | < 1              |                                                           |
| Methyl oleate HO                           | 4                             |                      | -5                  | 80-95            |                                                           |
| Methyl oleate N                            | 4                             |                      |                     | 83-95            |                                                           |
| Methyl oleate P                            | 4                             | -12                  | -15                 | 105-125          |                                                           |
| Methyl ricinoleate                         | < 20                          | <-17                 | <-25                |                  |                                                           |
| Methyl stearate                            | < 5                           | 28                   |                     | < 2              |                                                           |

\* Fatty esters with an iodine value < 3 are considered as saturated and show the best oxidation stability.  
Among the unsaturated esters, some are based on high oleic fatty acids and remain with a good oxidation stability.

|                                                               | Viscosity<br>at 40°C<br>mm²/s | Vegetable oils |                                                                                     | Viscosity<br>at 40°C<br>mm²/s  |                 |
|---------------------------------------------------------------|-------------------------------|----------------|-------------------------------------------------------------------------------------|--------------------------------|-----------------|
| Castor<br>Blown 30 P<br>first presson<br>hydrogenated         | 240<br>solid                  |                | Lard oil - Heliorex OLR<br>Tallow<br>hydrogenated<br>Refined<br>Wool grease         | 40<br><br>solid<br>45<br>solid | Animal<br>oils  |
| Coconut<br>refined<br>Hydrogenated                            | solid                         |                |                                                                                     |                                | Mineral<br>oils |
| Linseed<br>refined<br>blown 30P                               | 30<br>820                     |                | White paraffin oil<br>Heavy<br>medium<br>light                                      | 70<br>29<br>16                 |                 |
| Palm<br>hydrogenated<br>Refined                               | solid                         |                | Petroleum jelly                                                                     | paste                          |                 |
| Rapeseed<br>blown 30P<br>blown 35P<br>refined                 | 40                            |                |  |                                |                 |
| Soybean refined                                               | 45                            |                |                                                                                     |                                |                 |
| Sunflower refined<br>regular<br>high oleic<br>very high oleic | 35<br>50                      |                |                                                                                     |                                |                 |

|                                                                                                                                                                                                                                                                                           | C-chain length                                                                                            |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------|
| Caprylic acid<br>Capric acid<br>Caprylic-capric acid<br>Lauric acid<br>Myristic acid<br>Palmitic acid<br>Stearic acid<br>12-Hydroxy stearic acid<br>Ricinoleic acid<br>Oleic acid<br>Tall oil fatty acids (TOFA)<br>rosin acid content: 2%, 10%, 20-25%, 25-30%<br>Behenic<br>Erucic acid | C8<br>C10<br>C8-C10<br>C12<br>C14<br>C16<br>C18<br>C18-OH<br>C18:1-OH<br>C18:1<br>C18:2-3<br>C22<br>C22:1 | Fatty acids       |
| Lauryl alcohol<br>Myristyl alcohol<br>lauro-myristyl alcohol<br>Cetostearyl alcohol 30/70<br>Oleyl alcohol<br>Oleo-cetyl alcohols                                                                                                                                                         | C12<br>C14<br>C12-C14<br>C16-C18<br>C18:1<br>C16-C18:1                                                    | Fatty<br>alcohols |

| Description                      | Viscosity<br>at 40°C<br>mm <sup>2</sup> /s | Cloud<br>point °<br>C | Pour<br>point<br>C° | HLB  | Emulsifying polyol fatty esters |
|----------------------------------|--------------------------------------------|-----------------------|---------------------|------|---------------------------------|
| Glycerol monooleate              | 79                                         | 1                     | 0                   | 2.3  |                                 |
| PEG 200 monooleate               | 35                                         | < -6                  |                     | 8.0  |                                 |
| PEG 300 monooleate               | < 45                                       | < 4                   | -6                  | 10.4 |                                 |
| PEG 300 dioleate                 | < 49                                       | < 0                   |                     | 7.0  |                                 |
| PEG 400 dioleate                 | 49                                         | < 0                   | -4                  | 8.5  |                                 |
| PEG 400 diricinoleate            | 120                                        | - 6                   |                     |      |                                 |
| PEG 400 distearate               | < 40                                       |                       |                     | 8.6  |                                 |
| PEG 400 monolaurate              | 41                                         | 8                     |                     | 13.4 |                                 |
| PEG 400 monooleate               | 49                                         | < 6                   |                     | 11.5 |                                 |
| PEG 400 monoricinoleate          | < 150                                      | < 20                  |                     | 12   |                                 |
| PEG 400 monostearate             | 54                                         | 27                    |                     | 11.8 |                                 |
| PEG 600 dioleate                 | < 70                                       | < 22                  | 15                  | 10.5 |                                 |
| PEG 600 monooleate               | 64                                         | <22                   |                     | 13.6 |                                 |
| Pentaerythritol mono-, di-, tri- | 115                                        | -27                   | -30                 | 2,5  |                                 |
| Pentaerythritol tetraoleate      | 65                                         | <-22                  | -20                 |      |                                 |
| Propylene glycol mono-oleate     |                                            |                       | -17                 | 4.0  |                                 |
| Sorbitan monolaurate             | 1200                                       | 23                    |                     | 7.5  |                                 |
| Sorbitan monooleate              | 400                                        | 7                     | -20                 | 5.3  |                                 |
| Sorbitan monopalmitate           | -                                          |                       |                     | 6.0  |                                 |
| Sorbitan monostearate            | -                                          | 55                    |                     | 5.3  |                                 |
| Sorbitan sesquioleate            |                                            |                       |                     | 5    |                                 |
| Sorbitan trioleate               | 120                                        | < -11                 |                     | 2.8  |                                 |
| Sorbitan tristearate             | -                                          | 55                    |                     | 3.2  |                                 |
| Sorbitan monolaurate 20 EO       | 160                                        | -10                   | -17                 | 16.2 |                                 |
| Sorbitan monostearate 20 EO      | 190                                        | 21                    |                     | 15   |                                 |
| Sorbitan tristearate 20 EO       | -                                          |                       |                     | 11   |                                 |
| Sorbitan monooleate 20 EO        | 220                                        | 5                     | -11                 | 15.2 |                                 |
| Sorbitan triloleate 20 EO        | 110                                        |                       | < -21               | 10.6 |                                 |
| Polysorbate 20                   |                                            |                       |                     |      |                                 |
| Polysorbate 60                   |                                            |                       |                     |      |                                 |
| Polysorbate 65                   |                                            |                       |                     |      |                                 |
| Polysorbate 80                   |                                            |                       |                     |      |                                 |
| Polysorbate 85                   |                                            |                       |                     |      |                                 |



| Commercial name                                                                               | Description                                                                                                                                                                           | Alkanolamides |
|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Amide KDO<br>Amide ODV<br>Superamide ODM<br>Superamide KD<br>Superamide LD<br><br>Coconut MEA | Coconut diethanolamide + glycerol<br>Oleic diethanolamide + diethanolamine<br>Oleic diethanolamide<br>Coconut diethanolamide<br>Lauric diethanolamide<br><br>Coconut monoethanolamide |               |



| Commercial name   | Description *                                  | HLB    | Non-ionic emulsifiers, dispersing agents, tensides |
|-------------------|------------------------------------------------|--------|----------------------------------------------------|
| Heliwet FA 10/5   | Fatty alcohol C10 oxo 5 EO                     | 11,5   |                                                    |
| Heliwet FA 10/7   | Fatty alcohol C10 oxo 7 EO                     | 13     |                                                    |
| Heliwet FA 10/8   | Fatty alcohol C10 oxo 8 EO                     | 14     |                                                    |
| Heliwet FA 91/4   | Fatty alcohol C10 guerbet 6 EO                 | 12,5   |                                                    |
| Heliwet FA 91/6   | Fatty alcohol C10 guerbet 8 EO                 | 14     |                                                    |
| Heliwet FA 91/6 L | Fatty alcohol C10 guerbet 8 EO 85% solution    | 14     |                                                    |
| Heliwet FA 91/8   | Fatty alcohol C10 guerbet 10 EO                | 15     |                                                    |
| Heliwet FA 91/8 L | Fatty alcohol C10 guerbet 10 EO 85% solution   | 15     |                                                    |
| Heliwet FA 13/3   | Fatty alcohol iso-C13 + 3 EO                   | 8      |                                                    |
| Heliwet FA 13/5   | Fatty alcohol iso-C13 + 5 EO                   | 10,5   |                                                    |
| Heliwet FA 13/7   | Fatty alcohol iso-C13 + 7 EO                   | 12     |                                                    |
| Heliwet FA 13/8   | Fatty alcohol iso-C13 + 8 EO                   | 13     |                                                    |
| Heliwet FA 13/82  | Fatty alcohol iso-C13 + 8 EO 20% solution      | 13     |                                                    |
| Heliwet FA 13/89  | Fatty alcohol iso-C13 + 8 EO 90% solution      | 13     |                                                    |
| Heliwet FA 13/10  | Fatty alcohol iso-C13 + 10 EO                  | 13,5   |                                                    |
| Heliwet FA 13/12  | Fatty alcohol iso-C13 + 12 EO                  | 14,5   |                                                    |
| Heliwet FA 24/2   | Fatty alcohol C12-C14 + 2 EO                   | 6,1    |                                                    |
| Heliwet FA 24/4   | Fatty alcohol C12-C14 + 4 EO                   | 9      |                                                    |
| Heliwet FA 24/7   | Fatty alcohol C12-C14 + 7 EO                   | 12     |                                                    |
| Heliwet FA 24/79  | Fatty alcohol C12-C14 + 7 EO 90% solution      | 12     |                                                    |
| Heliwet FA 35/3   | Fatty alcohol C13-C15 + 3 EO                   | 8      |                                                    |
| Heliwet FA 35/7   | Fatty alcohol C13-C15 + 7 EO                   | 12     |                                                    |
| Heliwet FA 35/11  | Fatty alcohol C13-C15 + 11 EO                  | 14     |                                                    |
| Heliwet FA 35/30  | Fatty alcohol C13-C15 + 30 EO                  | 17     |                                                    |
| Heliwet FA 68/5   | Fatty alcohol C16-C18 + 5 EO                   | 9      |                                                    |
| Heliwet FA 68/11  | Fatty alcohol C16-C18 + 11 EO                  | 13,5   |                                                    |
| Heliwet FA 68/20  | Fatty alcohol C16-C18 + 20 EO                  | 15     |                                                    |
| Heliwet FA 68/25  | Fatty alcohol C16-C18 + 25 EO powder or flakes | 16     |                                                    |
| Heliwet FA 18/2   | Fatty alcohol C18 + 2 EO                       | 4,9    |                                                    |
| Heliwet OC 2      | Oleocetyl alcohol 2 EO                         | 4      |                                                    |
| Heliwet OC 10     | Oleocetyl alcohol 10 EO                        | 12     |                                                    |
| EL 2,5            | Castor oil 2,5 EO                              | 2      |                                                    |
| EL 11             | Castor oil 11 EO                               | 7      |                                                    |
| EL 18             | Castor oil 18 EO                               | 9      |                                                    |
| EL 25             | Castor oil 25 EO                               | 11     |                                                    |
| EL 33             | Castor oil 33 EO                               | 12     |                                                    |
| EL 40             | Castor oil 40 EO                               | 12,5   |                                                    |
| EL 40 80%         | Castor oil 40 EO 80% solution                  | 12,5   |                                                    |
| EL 200            | Castor oil 200 EO                              | 18     |                                                    |
| Heliwet HCO 40    | Hydrogenated castor oil 40 EO                  | 15     |                                                    |
|                   | Lanolin 30 EO                                  | 11     |                                                    |
|                   | Lanolin 75 EO                                  | 17     |                                                    |
|                   | Stearic acid 40 EO                             | 17,3   |                                                    |
|                   | Stearic acid 100 EO                            | 18,5   |                                                    |
|                   | Coconut amine 15 EO                            | 14,5   |                                                    |
|                   | Tallow amine 2 EO                              | 5      |                                                    |
|                   | Tallow amine 8 EO                              | 11,5   |                                                    |
|                   | Tallow amine 15 EO                             | 14,5   |                                                    |
|                   | Oleylamine 2 EO                                | 5      |                                                    |
|                   | Oleylamine 6 EO                                | 10     |                                                    |
| NP 4 to 12        | Nonylphenol 4—12 EO                            | 9 - 14 |                                                    |
| Heliwet APG       | Alkyl polyglucoside                            |        |                                                    |

\* other ethoxylation grades and concentrations available on request  
Heliwet FA 91 range is offered as substitute to ethoxylated C9-C11 alcohols

Aluminium stearate  
Calcium stearate  
Magnesium stearate  
Sodium stearate  
Zinc stearate

## Metallic stearates



Glycerol  
Ethoxylated glycerol  
Polyethylene glycol 200, 300, 400, 600, 1000, 4000, 6000 , 20 000  
Propylene glycol  
Sorbitol

## Polys

Ester based waxes:  
Cetyl palmitate  
Ethylene glycol distearate  
Glycerol tristearate  
stearyl stearate  
Ethylene-bis-stearamide  
Paraffin wax 54/56  
Montanic ester waxes  
Polyethylene wax

## Waxes

Dipentene  
Orange terpene  
Pine oil 70%, 90%  
Triethanolamine (TEA) 85%, 99%  
Turpentine

## Miscellaneous

| Process                                                                                                                                                                    | Scope                                                                                                                                                                                                    |                                                                                             | Toll<br>manufacturing |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------|
| <b>Esterification</b><br><b>Flaking or pastillation</b><br><b>Distillation &amp; filtration</b><br><b>Blending of liquids</b><br><b>Packing</b><br><b>Storage capacity</b> | From lab sample to bulk loads<br>min. 10 t campaigns<br>min. 10 t campaigns<br>Up to 230°C, vacuum, nitrogen blanketing<br>In drums, IBC’s, optionally in clean room<br>For packed goods, ADR facilities |                                                                                             |                       |
| Certification                                                                                                                                                              | Auditor                                                                                                                                                                                                  | Scope                                                                                       | Certifications        |
| <b>ISO 9001:2015</b>                                                                                                                                                       | PME Cert s.a.                                                                                                                                                                                            | Development, production & sales of chemical products                                        |                       |
| <b>Feed Chain Alliance (GMP Feed)</b>                                                                                                                                      | Vinçotte                                                                                                                                                                                                 | FCA / OVOCOM — Commerce and production of raw materials for live-stockholders and additives |                       |
| <b>Food Authorisation</b>                                                                                                                                                  | AFSCA                                                                                                                                                                                                    | Production and sales of specific food products                                              |                       |
| <b>Kosher</b>                                                                                                                                                              | OK, 1K                                                                                                                                                                                                   | On request                                                                                  |                       |
| <b>Halal</b>                                                                                                                                                               | EIHC                                                                                                                                                                                                     | On request                                                                                  |                       |
| <b>Organic — Bio</b>                                                                                                                                                       | Certisys sprl                                                                                                                                                                                            | For vegetable oils, beeswax, glycerine                                                      |                       |
| <b>RSPO</b>                                                                                                                                                                | ISACert b.v.                                                                                                                                                                                             | On request - mass balance                                                                   |                       |

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