



# Ester Base Stocks & Additives

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*Engineered for Performance, Sustainable by Nature™*

# Driving Innovation for Sustainable Lubricants

*Engineered for Performance, Sustainable by Nature™*

Founded in 1840, Emery Oleochemicals has a rich heritage developing and manufacturing natural-based chemicals made predominantly from renewable oils and fats. Emery Oleochemicals' philosophy of 'Creating Value' for our customers is evident through our wide-ranging product portfolio that caters to the diverse and unique needs of an evolving marketplace.

Today, over 180 years later, Emery Oleochemicals is known for world-leading, in-depth technical expertise and the production of high-quality specialty chemicals. Through our global operations, we provide our customers with best-in-class sustainable solutions, engineered for performance.

## Lubricant Components and Solutions

Our Bio-Lubricants products are targeted to improve and optimize processing efficiencies, lower maintenance costs, improve technical performance and enhance environmental safety for a wide variety of applications in the lubricant industry. Our innovative and evolving portfolio covers a broad set of products including synthetic esters based on both petrochemical and oleochemical raw materials. We can meet your performance and sustainability needs.

## Creating Value, Globally

With Emery's global footprint of technical and commercial contacts in the Americas, Europe and Asia, our Bio-Lubricants business offers strength in product development, manufacturing, distribution, sales and technical support to our customers around the world.



For more information about our  
comprehensive Esters portfolio, visit:

[www.emeryoleo.com/bio-lubricants/lubricant-esters](http://www.emeryoleo.com/bio-lubricants/lubricant-esters)

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# Our Technology Advantage

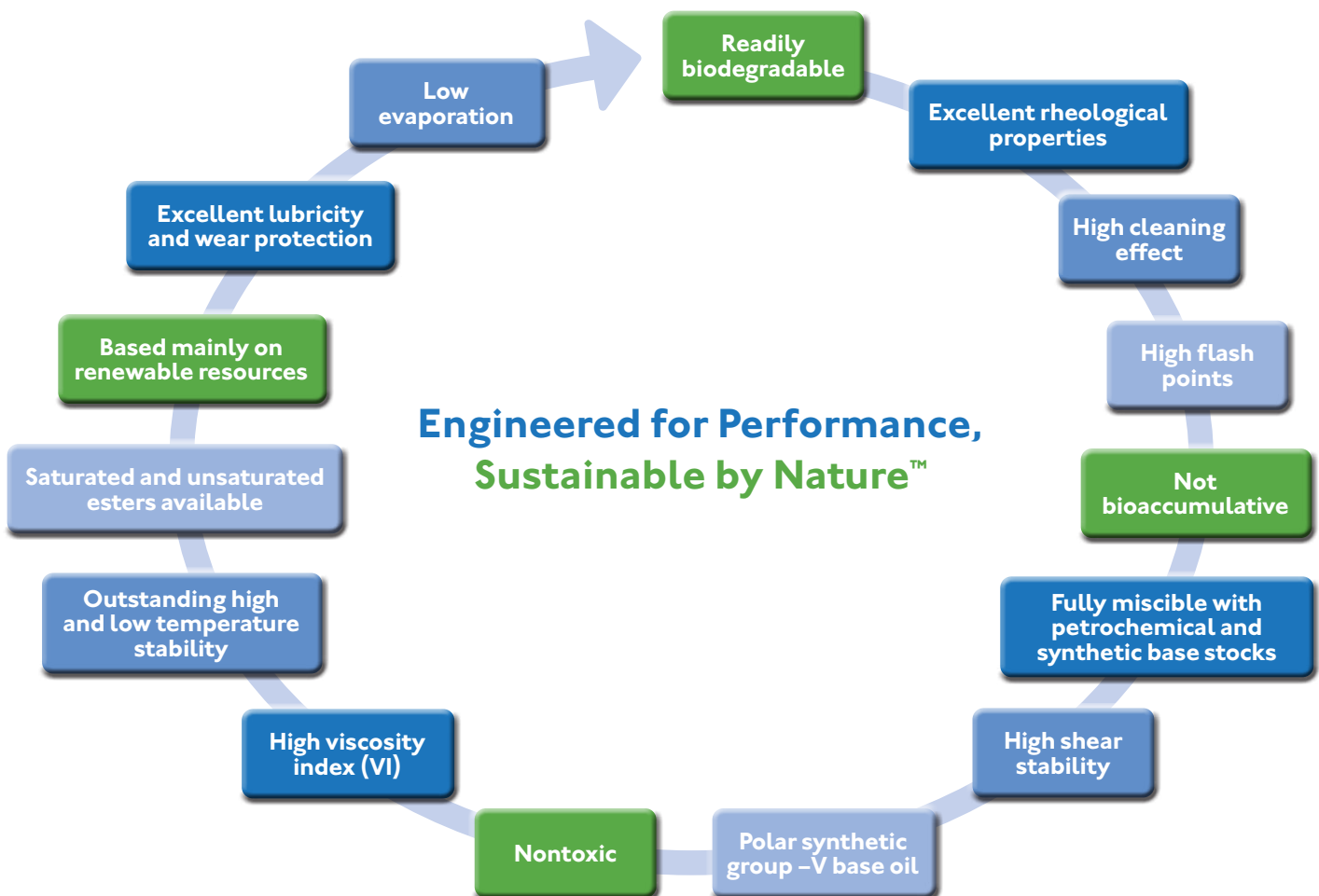
## Leading in Ester Technology Innovation

As a pioneer and the largest oleochemicals manufacturer in The Americas, Emery Oleochemicals provides proven and sustainable technical expertise to enable our customers in the formulating and service industry to develop innovative products for lubricant applications.

In addition, Emery Oleochemicals has advanced global sustainability through over 60 years of innovation in esters technology. Through our focus on research and technological advancements, we are poised to provide you with differentiated, innovative and even customizable products and solutions.

## Base Esters That Offer Value-Add & Sustainability Benefits

Ester technology is one of the preferred base stock chemistries for demanding applications in the lubricant industry. Our DEHYLUB® esters, based predominately on renewable raw materials, offer value-add by providing high performance properties like superior lubricity, excellent low temperature behavior and high viscosity index. Combined with environmentally-friendly characteristics, including good biodegradability and low aquatic toxicity, lubricant esters from Emery are the right choice when formulating fluids for demanding applications and special regulations.



Monocarboxylic and Fatty Acids	Polycarboxylic Acids/ Anhydrides	Alcohols/ Polyols
C5	Adipic Acid	2-Ethylhexanol
C7	Sebacic Acid	Isotridecanol
C8-10	Azelaic Acid	Butanol
Iso-C9, C9	Dimer Acid	Isobutanol
C12	Trimellitic Anhydride	Polyethylene Glycol
C16		Glycerine
C8-18		Diglycerine
C18'		Trimethylolpropane
C18''		Neopentyl Glycol
Iso-C18, C18		Pentaerythritol
Various Fatty Acids		Dipentaerythritol

## Our Specialty Esters are Engineered for Performance

Our esters are designed using our own chemical toolbox to achieve targeted properties and characteristics. Due to the experience and expertise of our global technical groups, we can achieve your specific required functionalities including:

- friction reduction,
- cold temperature properties,
- volatility,
- thermo-oxidative resistance,
- high solvency, and
- hydrolytic stability.

## Oleochemical & Petrochemical Options

To achieve the targeted ester profile, our technical team uses both oleochemical and petrochemical raw materials from various suppliers around the world as well as fatty acids from in-house production. This backward integration ensures security of supply while our natural-based feedstock offers sustainability benefits.

# Achieving Sustainability & Regulatory Compliance

Catering to the increasing demand for environmentally responsible solutions, Emery Oleochemicals' Product, Safety and Regulations department provides the necessary support for certifications, registrations and listings such as US EPA environmentally acceptable lubricants (EALs), RSPO, HX-I components in the NSF White Book, and the European Ecolabel lubricant substance classification (LuSC) list.

## Roundtable on Sustainable Palm Oil (RSPO) Certified Esters

Certain ester profiles can best be achieved using fatty acids derived from palm or palm kernel oils. To further support our activities and strategy to provide sustainable solutions and products to the industry, our production site in Europe is certified with the Roundtable on Sustainable Palm Oil (RSPO).

We offer the following range of mass balance (MB) products available commercially. Given our technical capabilities and existing license, this certification range can be extended upon demand.



2-1317-22-100-00

## RSPO Certified Esters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM²/S]	KIN. VISCOSITY AT 100 °C [MM²/S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 4000 MB	2-Ethylhexyl Stearate/Palmitate	7.6 - 10	2 - 4	> 160	≤ 0.2	< 1	≤ 5	> 200
DEHYLUB® 4052 MB	NPG Cocoate	14 - 18	3.5 - 5	> 160	≤ 2	≤ 10	≤ 5	> 220
DEHYLUB® 1330 MB	NPG Ester	16 - 20	3.5 - 5.5	> 160	≤ 2	13 - 25	≤ 5	> 220
DEHYLUB® 1333 MB	TMP Ester	36 - 46	7 - 9	> 150	≤ 5	15 - 28	≤ 5	> 290
DEHYLUB® 4022 MB	TMP Fatty Acid Ester	18 - 21	4.2 - 4.6	> 130	≤ 0.1	< 1	≤ -45	> 250
DEHYLUB® 4085 MB	TMP Trioleate, veg.	42 - 50	9 - 10	> 180	≤ 1	80 - 90	≤ -40	> 310
DEHYLUB® 4018 MB	2-Ethylhexyl Palmitate	7.5 - 9	2 - 3	> 160	≤ 0.5	< 2	≤ 0	> 210
DEHYLUB® 4003 MB	2-Ethylhexyl Laurate	4 - 6	1 - 2	> 140	≤ 0.5	< 1	≤ -35	> 170

## European Ecolabel & Lubricant Substance Classification (LuSC) List

The European (EU) Ecolabel for lubricants promotes the development and use of lubricating products with a reduced environmental impact.

Emery Oleochemicals develops and manufactures specialty ester base stocks and lubricant additives for environmentally acceptable lubricants (EALs) that are certified via the European Ecolabel's Lubricant Substance Classification (LuSC) list.



Our portfolio of products registered on the EU Ecolabel LuSC list outlined below are compliant with the updated 2020 Ecolabel criteria and are valid until December 31, 2024.

PRODUCT	TREAT RATE	BIODEGRADATION	AQUATOXICITY	BIOBASED FRACTION
DEHYLUB® 4012	Not limited by biodegradation and aquatic toxicity	100% A	100% D	71%
DEHYLUB® 4016	Not limited by biodegradation and aquatic toxicity	100% A	100% D	90%
DEHYLUB® 4030	Not limited by biodegradation and aquatic toxicity	100% A	100% D	90%
DEHYLUB® 4060	Not limited by biodegradation and aquatic toxicity	100% A	100% D	91%
DEHYLUB® 4062	Not limited by biodegradation and aquatic toxicity	100% A	100% D	91%
DEHYLUB® 4064	Not limited by biodegradation and aquatic toxicity	100% A	100% D	74%
DEHYLUB® 4066	ALL / ALL / PLL / PLL / TLL / TLL 10% / 20% / 25% / 20% / 5% / 20%	100% B	100% D	91%
DEHYLUB® 4105	ALL / ALL / PLL / PLL / TLL / TLL 10% / 20% / 25% / 20% / 5% / 20%	100% B	100% D	71%
DEHYLUB® 4005	Not limited by biodegradation and aquatic toxicity	100% A	100% D	39%
DEHYLUB® 4022	Not limited by biodegradation and aquatic toxicity	100% A	100% D	83%
DEHYLUB® 4049	Not limited by biodegradation and aquatic toxicity	100% A	100% D	96%
DEHYLUB® 4059	Not limited by biodegradation and aquatic toxicity	100% A	100% D	68%
DEHYLUB® 4071	Not limited by biodegradation and aquatic toxicity	100% A	100% D	74%
DEHYLUB® 4077	Not limited by biodegradation and aquatic toxicity	100% A	100% D	58%
DEHYLUB® 4087	Not limited by biodegradation and aquatic toxicity	100% A	100% D	91%
DEHYLUB® 4148	Not limited by biodegradation and aquatic toxicity	100% A	100% D	89%
DEHYLUB® 4172	ALL / ALL / PLL / PLL / TLL / TLL 5% / 10% / 10% / 10% / 5% / 10%	100% C	100% D	81%





## NSF HX-I Nonfood Compounds & Chemical Registration

In order to enable our customers to develop and formulate lubricants for incidental food contact, we offer the following ester product solutions that are already approved and registered on the NSF White Book as HX-I compounds.

PRODUCT NAME	NSF REGISTRATION NUMBER
DEHYLUB® 4005	151113
DEHYLUB® 4022	159379
DEHYLUB® 4030	151115
DEHYLUB® 4049	159380
DEHYLUB® 4059	159381
DEHYLUB® 4060	159382
DEHYLUB® 4064	159383
DEHYLUB® 4067	159384
DEHYLUB® 4071	159385
DEHYLUB® 4085	159390
DEHYLUB® 4087	159386
DEHYLUB® 4148	159389
DEHYLUB® BS 4015	159388



# Monoesters

Our monoesters are available in both unsaturated and saturated lines for use in a variety of applications.

## Advantages

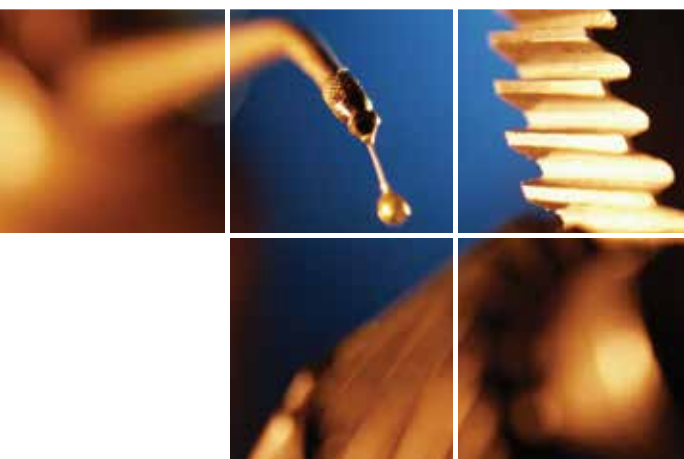
- Low viscosity for high spreading and wetting abilities
- High flash point
- Low volatility compared to petrochemical base stocks of the same viscosity grade

## Applications

- Metalworking fluids
- Industrial oils
- Steel rolling
- Automotive fluids

## Unsaturated Monoesters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM²/S]	KIN. VISCOSITY AT 100 °C [MM²/S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 1325	2-Ethylhexyl Tallowate	7 - 10	2 - 3.5	> 150	≤ 0.5	35 - 47	≤ -5	> 210
DEHYLUB® 4146	2-Ethylhexyl Ester	≤ 7	1.5 - 2.5	> 140	≤ 1	< 20	≤ -20	> 150
DEHYLUB® 4012	2-Ethylhexyl Oleate	7 - 9	2 - 3.5	> 160	≤ 0.5	60 - 71	≤ -30	> 180
DEHYLUB® 4043	Isobutyl Oleate	5 - 7	1 - 3	> 180	≤ 0.5	73 - 81	≤ -25	> 180
DEHYLUB® 4012 MY	2-Ethylhexyl Oleate	7 - 9	2 - 3.5	> 160	≤ 0.5	60 - 71	≤ -25	> 180
DEHYLUB® 4042 MY	Methyl Palmitate/Oleate	4 - 6	< 2.5	> 200	≤ 0.5	> 50	≤ 10	> 150



# Monoesters

Saturated monoesters provide high oxidative and thermal stability. When low viscosity base stocks are required, our esters will support higher flash points and lower volatility than corresponding petrochemical base stocks.

## Advantages

- Good oxidative stability
- Fitting wetting properties
- High flash points in correlation with low viscosity
- Good hydrolytic stability

## Applications

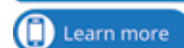
- Metalworking fluids
- Industrial oils
- Steel rolling
- Automotive fluids

## Saturated Monoesters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM²/S]	KIN. VISCOSITY AT 100 °C [MM²/S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 4003	2-Ethylhexyl Laurate	4 – 6	1 – 2	> 140	≤ 0.5	< 1	≤ -35	> 170
DEHYLUB® 4018	2-Ethylhexyl Palmitate	7.5 – 9	2 – 3	> 160	≤ 0.5	< 2	≤ 0	> 210
DEHYLUB® 4000	2-Ethylhexyl Stearate/Palmitate	7.6 – 10	2 – 4	> 160	≤ 0.2	< 1	≤ 5	> 200
DEHYLUB® 4033	2-Ethylhexyl Palmitate/Stearate	8.5 – 10.5	2.5 – 3.5	> 160	≤ 0.3	< 2	≤ 15	> 200
DEHYLUB® BS 4015*	n-Butyl Stearate	6.5 – 7.5	2 – 3.5	> 180	≤ 0.5	< 1	≤ 23	> 190
DEHYLUB® 4134	Fatty Acid Ester	4 – 6	< 2	> 145	≤ 0.5	< 1	≤ -20	> 170
DEHYLUB® 4004	Isobutyl Stearate	6 – 8	1 – 3.5	> 170	≤ 0.5	< 2	≤ 19	> 170
DEHYLUB® 4010	Isotridecyl Stearate	15 – 17	3.5 – 5	> 160	≤ 0.5	< 2	≤ 7	> 230



\*HX-I listed



# Diesters

As one of the leading suppliers of environmentally-acceptable base stocks, Emery Oleochemicals offers diester products with renewable content for lubricant formulators who are looking for more environmentally-friendly alternatives to help meet their sustainability objectives. We also offer diesters based on traditional petrochemical components.

## Advantages

- High oxidative stability
- Excellent blending and miscibility behavior
- Superior low temperature profile

## Applications

- Industrial fluids
- Metalworking fluids
- Automotive fluids
- Greases

## Saturated and Unsaturated Diesters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM²/S]	KIN. VISCOSITY AT 100 °C [MM²/S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 4039	Di-2-ethylhexyl Azelate	10 - 12	2.5 - 3.5	> 140	≤ 1		≤ -60	> 200
DEHYLUB® 4005*	Di-2-ethylhexyl Sebacate	10.5 - 12.5	3 - 3.5	> 150	≤ 0.2	< 1	≤ -70	> 210
DEHYLUB® 4045	Di-isodecyl Adipate	12 - 15	3 - 4	> 140	≤ 0.2	< 1	≤ -60	> 210
DEHYLUB® 1337	Di-isotridecyl Adipate	23 - 29	5 - 6	> 130	≤ 0.1	< 1	≤ -50	> 210
DEHYLUB® 4105	Di-2-ethylhexyl Dimerate	85 - 100	12 - 14	> 140	≤ 0.2	70 - 90	≤ -40	> 290
DEHYLUB® 4144	Polyglycol Fatty Acid Diester	50 - 65	10.5 - 12.5	> 200	12 - 15	40 - 50	≤ 15	> 250
DEHYLUB® 4121	Polyglycol Fatty Acid Diester	30 - 40	6.5 - 8.5	> 195	≤ 8	< 6	≤ 15	> 210
DEHYLUB® 4126	Polyglycol Fatty Acid Diester	40 - 50	8 - 10	> 170	≤ 2	~ 40	≤ 0	> 270

\*HX-I listed



Learn more



# Polyol Esters

To achieve optimal performance parameters in combination with a very favorable ecotoxicological profile, Emery's polyol esters product portfolio uses neopentyl glycol, trimethylolpropane and pentaerythritol as the alcohol part in combination with oleochemical fatty acid cuts. Our polyol esters are available in both unsaturated and saturated.

## Advantages

- High flash point base stocks
- Excellent lubrication and friction reduction
- Good hydrolytic stability

## Applications

- Industrial fluids
- Metalworking fluids
- Environmentally acceptable lubricants (EALs)
- Fire resistant hydraulic fluids

## Unsaturated Polyol Esters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM²/S]	KIN. VISCOSITY AT 100 °C [MM²/S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 1330	NPG Ester	16 - 20	3.5 - 5.5	> 160	≤ 2	13 - 25	≤ 5	> 220
DEHYLUB® 4016	NPG Dioleate, veg.	22 - 27	5.5 - 6.5	> 200	≤ 1	75 - 85	≤ -20	> 250
DEHYLUB® 4016 US	NPG Dioleate	22 - 27	5.5 - 6.5	≥ 200	≤ 2		≤ -20	> 250
DEHYLUB® 1333	TMP Ester	36 - 46	7 - 9	> 150	≤ 5	15 - 28	≤ 5	> 290
DEHYLUB® 4030*	TMP Trioleate	42 - 50	9 - 10	> 180	≤ 0.5	80 - 90	≤ -40	> 310
DEHYLUB® 4030 MY	TMP Trioleate	42 - 50	9 - 10	> 180	≤ 1	80 - 90	≤ -40	> 300
DEHYLUB® 4085*	TMP Trioleate, veg.	42 - 50	9 - 10	> 180	≤ 1	80 - 90	≤ -40	> 310
DEHYLUB® 4136	TMP Trioleate, veg.	44 - 53	< 10	> 170	≤ 2	≤ 90	≤ -20	> 290
DEHYLUB® 4145	TMP Trioleate	43 - 53	12 - 16	> 140	2 - 4	80 - 90	≤ -40	> 300
DEHYLUB® 4028	Glycerol Trioleate	< 45	7.5 - 9	> 170	≤ 1	80 - 95	≤ -10	> 290
DEHYLUB® 4050	PE Tetraoleate	60 - 74	10 - 13	> 140	≤ 1	85 - 95	≤ -15	> 300
DEHYLUB® 4129	TMP Monomerate	80 - 90	11 - 15	> 145	≤ 2	≤ 55	≤ 10	> 300
DEHYLUB® 4008	Pentaerythritol Dioleate	86 - 105	13 - 14	> 130	≤ 2	> 80	≤ -15	> 270
DEHYLUB® 4038	Glycerol Monooleate	100 - 120	~ 10	> 80	≤ 1	74 - 84	≤ 6	> 180

\*HX-I listed



High-performance fluids require high oxidative stability and excellent low temperature behavior. Our saturated and branched esters provide the necessary properties and characteristics to meet these needs.

## Polyol Esters

### Advantages

- High thermo-oxidative stability
- Good hydrolytic stability
- High viscosity index
- Superior film forming properties

### Applications

- Industrial fluids
- Metalworking fluids
- Environmentally acceptable lubricants (EALs)
- Fire resistant hydraulic fluids
- Marine oils

### Saturated Polyol Esters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM²/S]	KIN. VISCOSITY AT 100 °C [MM²/S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 4052	NPG Coccoate	14 - 18	3.5 - 5	> 160	≤ 2	≤ 10	≤ 5	> 220
DEHYLUB® 4022*	TMP Fatty Acid Ester	18 - 21	4.2 - 4.6	> 130	≤ 0.1	< 1	≤ -45	> 250
DEHYLUB® 4119	TMP Fatty Acid Ester	19 - 23	4.4 - 5.8	> 140	≤ 0.1	< 1	≤ -40	> 250
DEHYLUB® 4026	Pentaerythritol Fatty Acid Ester	27.5 - 33	5 - 6	> 140	≤ 0.3	< 0.8	≤ -4	> 275
DEHYLUB® 4086	TMP Coccoate	34 - 38	6 - 8	> 150	≤ 1	< 10	≤ 5	> 250
DEHYLUB® 4148*	NPG Isostearate	41.4 - 50.6	7 - 9	> 140	≤ 0.5	< 3	≤ -20	> 250
DEHYLUB® 4087*	TMP Isostearate	95 - 105	12 - 15	> 135	≤ 0.5	< 3	≤ -30	> 300
DEHYLUB® 4049*	Pentaerythritol Isostearate	135 - 150	17 - 19	> 135	≤ 0.5	< 3	≤ -25	> 300
DEHYLUB® 4167*	Dipentaerythritol Ester	200 - 240	16 - 21	> 85	≤ 0.2	< 1	≤ -27	> 300

\*HX-I listed



Learn more

# Complex Esters

Complex esters from Emery Oleochemicals give formulators the right tool to optimize lubricant fluids while maintaining other criteria like ecotoxic profile, usage of renewable resources and low toxicity. Available as unsaturated and saturated esters, both lines offer various viscosity grades to provide our customers with the appropriate viscosity grade, or a blending scheme can be applied to achieve any viscosity grade in between.

## Advantages

- Excellent lubrication
- High miscibility with other base stock technologies
- Shear stable thickening components

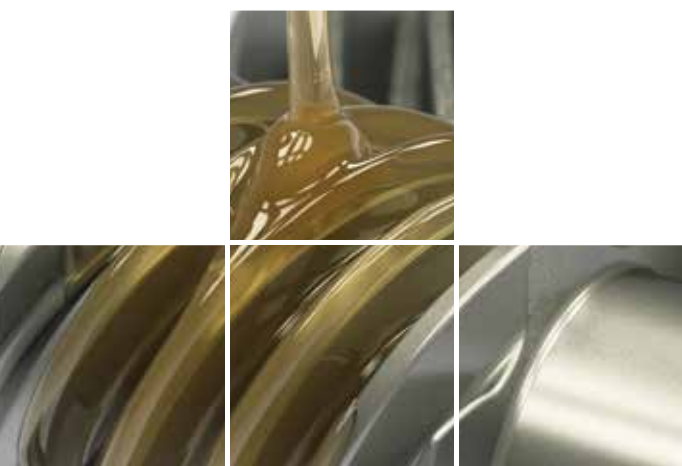
## Applications

- Industrial oils
- Metalworking fluids
- Automotive oils

## Unsaturated Complex Esters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM²/S]	KIN. VISCOSITY AT 100 °C [MM²/S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 4060*	TMP Complex Ester	61.2 - 74.8	10 - 13	> 180	≤ 1	> 75	≤ -25	> 300
DEHYLUB® 4062	TMP Complex Ester	135 - 165	20 - 24	> 180	≤ 1	> 75	≤ -25	> 300
DEHYLUB® 4064*	TMP Complex Ester	288 - 352	40 - 45	> 180	≤ 1	> 75	≤ -25	> 300
DEHYLUB® 4066*	TMP Complex Ester	612 - 748	70 - 80	> 180	≤ 1	> 75	≤ -20	> 300
DEHYLUB® 4067	TMP Complex Ester	900 - 1100	90 - 110	> 180	≤ 1	> 75	≤ -20	> 300
DEHYLUB® 4153	Polymeric Ester	> 400	> 45	> 160	≤ 45	≤ 100	≤ -10	> 290
DEHYLUB® 4172	Polymeric Ester	250 - 350	28 - 34	> 140	28 - 35	≤ 70	≤ -30	> 300

\*HX-I Listed



Learn more

Our saturated complex esters covering a broad viscosity range provide formulators with numerous options to use as base stocks, components, thickeners and additives.

## Complex Esters

### Advantages

- High thermo-oxidative stability
- Excellent lubricity
- Shear stable thickening components

### Applications

- Industrial fluids
- Metalworking fluids
- Environmentally acceptable lubricants (EALs)
- Fire resistant hydraulic fluids
- Marine oils

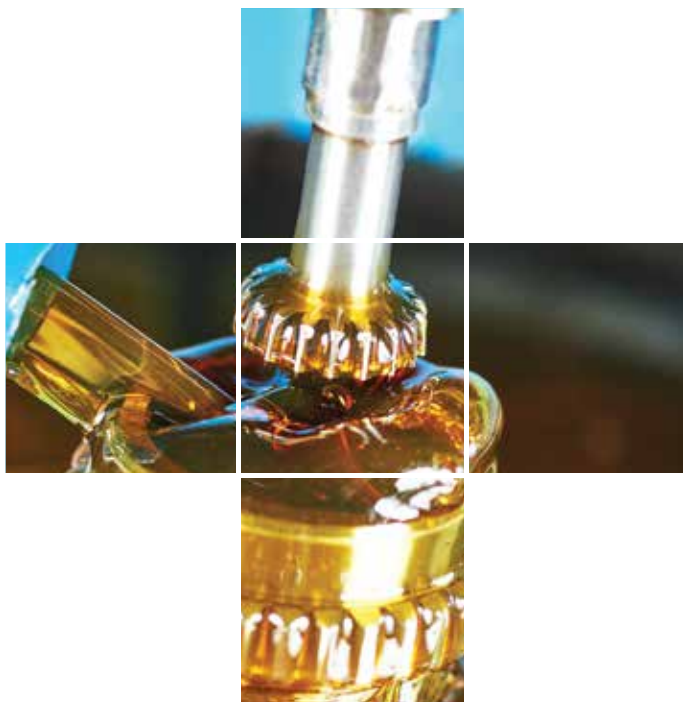
### Saturated Complex Esters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM <sup>2</sup> /S]	KIN. VISCOSITY AT 100 °C [MM <sup>2</sup> /S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 4071*	Complex Ester	43 - 53	8 - 9	> 140	≤ 0.3	≤ 1	< -30	> 270
DEHYLUB® 4059*	Complex Ester	105 - 120	14 - 16	> 140	≤ 0.5	≤ 1	< -40	> 270
DEHYLUB® 4077*	Complex Ester	288 - 352	30 - 40	> 145	≤ 0.1	≤ 1	< -25	> 260
DEHYLUB® 4100	Complex Ester	425 - 465	34 - 38	> 110	≤ 0.5	≤ 13	≤ -22	> 300

\*HX-I listed



Learn more





# Trimellitate Esters

For high temperature applications, our trimellitate (TMA) esters serve as valuable base stock components in industrial fluid formulations.

## Advantages

- Excellent thermo-oxidative stability
- High flash points
- Suitable low temperature behavior

## Applications

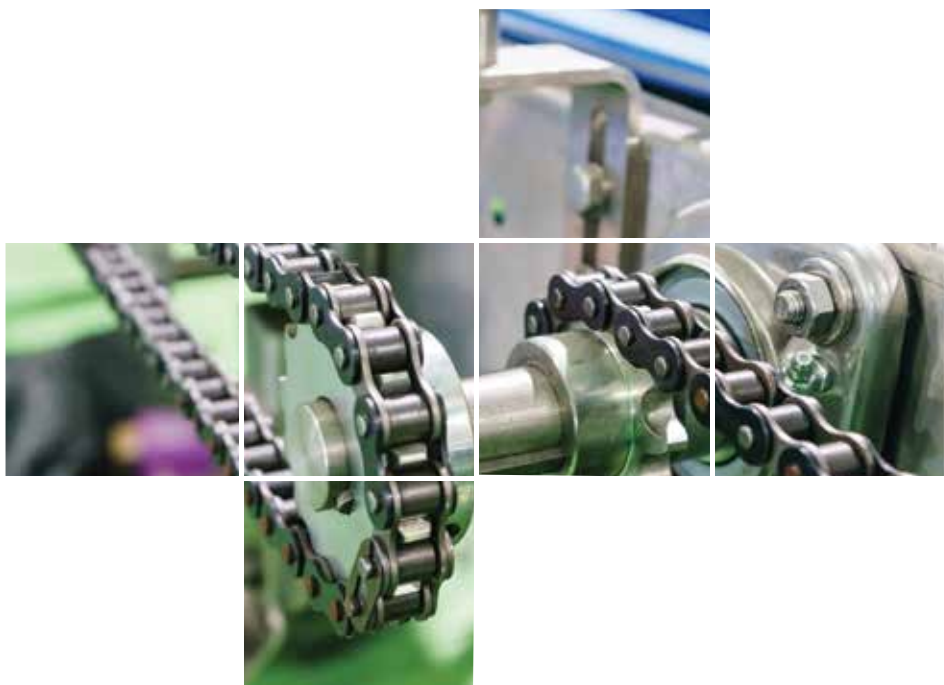
- High temperature oils
- Chain and conveyor fluids

## Unsaturated TMA Esters

PRODUCT	DESCRIPTION	KIN. VISCOSITY AT 40 °C [MM²/S]	KIN. VISCOSITY AT 100 °C [MM²/S]	VISCOSITY INDEX	ACID VALUE	IODINE VALUE	POUR POINT [°C]	FLASH POINT [°C]
DEHYLUB® 4029	Trimellitate Ester, stabilized	45 - 55	7 - 9	> 120	≤ 0.2	< 1	≤ -45	> 290
DEHYLUB® 4149	Trimellitate Ester, unstabilized	45 - 55	7 - 9	> 120	≤ 0.2	< 1	≤ -45	> 290
DEHYLUB® 4032	Trimellitate Ester, stabilized	80 - 95	8.5 - 9.5	> 75	≤ 0.2	< 1	≤ -40	> 250



Learn more



# Custom Joint Development

In addition to our comprehensive existing product portfolio, Emery Oleochemicals is also committed to working with our customers to develop and commercialize innovative and market-leading components for all types of lubricant applications to meet your specific requirements.

Through our dedicated Product and Application Development labs in the USA and in Germany, we offer both exclusive and joint solutions development efforts to meet customer-specific performance and technical requirements; supporting the continuous evolution of high-performance lubricants.

## Your Preferred R&D Partner

Emery's Bio-Lubricants business can provide the necessary technical expertise and R&D capabilities by designing products for existing and emerging industry requirements, creating solutions that make an impactful difference. Our laboratories feature synthetic capacity combined with longstanding experience in ester development and application testing capabilities. Ranging from small-scale exploratory synthesis and testing to pilot quantities to support customer trials, Emery is a global innovator of biobased, sustainable solutions for the world's most challenging problems.



# Global Manufacturing

As a global provider of renewable-based, high-performance and innovative solutions for industrial lubricant applications, Emery Oleochemicals provides a unique and comprehensive portfolio for a wide variety of industries, available worldwide from our global manufacturing facilities.



Located on 35 acres in Cincinnati, Ohio, USA, our North American manufacturing facility is home to many pioneering oleochemical technologies that make Emery the largest oleochemicals manufacturer in The Americas and the largest global producer of azelaic acid.

This site is RSPO certified to manufacture products in accordance with mass balance (MB) requirements. In addition, our purpose-built Specialty Esters plant, dedicate reactors, and backward integration into various raw materials ensure security of supply.

Located in Loxstedt, Germany, our European manufacturing plant spans 32 acres and has been operational since 1902.

Our dedicated Esterification plant can produce the entire range of Emery's esters in both liquid and solid form. This site is RSPO certified to manufacture esters in accordance with mass balance (MB) requirements.



# CREATING VALUE FOR OUR CUSTOMERS, ANYWHERE IN THE WORLD.



## Global Network

Emery Oleochemicals' operations are supported by a global workforce and an extensive distribution network covering over 50 countries worldwide. Our technical and industry experts located around the world are ready to help you select the best product to meet your specific requirements so you can achieve both your performance and sustainability goals.

The availability of our products is subject to regional demand and regulations. Detailed information and certifications are available upon request.

Visit our website to learn more about our comprehensive Bio-Lubricants solutions:  
[www.emeryoleo.com/bio-lubricants](http://www.emeryoleo.com/bio-lubricants)





**For more information, contact your nearest regional office.**

Americas: [bl.americas@emeryoleo.com](mailto:bl.americas@emeryoleo.com)

Europe: [bl.europe@emeryoleo.com](mailto:bl.europe@emeryoleo.com)

Asia: [bl.asia@emeryoleo.com](mailto:bl.asia@emeryoleo.com)

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