



Base fluids & additives for high-performance greases

Explore Cargill's comprehensive portfolio of solutions designed to formulate high-performance greases with options biobased and/or biodegradable, suitable for incidental food contact and compliant with EU Ecolabel certification standards.

Balancing performance and innovation for grease formulations

Grease formulation is a complex process that balances base fluid properties, thickener systems, and additive technologies to meet the diverse performance demands of modern machinery. As industries evolve toward higher efficiency, sustainability, and extended maintenance intervals, the need for advanced greases with superior thermal stability, oxidation resistance, and compatibility with emerging materials has grown significantly.

Trends such as the shift toward synthetic and bio-based base oils and increasing regulatory pressure for environmentally friendly lubricants are reshaping formulation strategies. These developments reflect a broader market need for greases that deliver long-lasting protection, reduce energy consumption, and comply with global sustainability standards.

We have an extensive portfolio of base fluids and additives that can help grease formulators meet these needs and evolving requirements. Our Priolube™ synthetic esters and Emkarox™ polyalkylene glycols offer a wide range of viscosities and meet key requirements such as extreme temperature stability and food contact approvals. The Agri-Pure™ natural ester base fluids are derived from coconut, soybean, canola, corn, sunflower etc. Priacid™, Prisorine™ and Pristerene™ can be used in soap production to improve grease consistency and reduce oil consumption. Our Perfad™ corrosion inhibitors are also suitable for use in grease.



Cargill™ grease solutions deliver across applications

Whether on the road, in the field, or at sea, Cargill's portfolio can help formulators meet performance and regulatory goals.



Automotive



Industrial



Marine



Mining



Agriculture

Benefits of Cargill™ solutions for grease formulation



Superior thermal & oxidation stability:

Synthetic esters and Polyalkylene Glycols (PAGs) resist thermal breakdown and oxidation far better than mineral oils. This ensures reliable performance in extreme temperatures, reduces sludge and acid formation, and extends both grease and equipment life.



Excellent lubricity & film strength

Thanks to their natural polarity, esters, vegetable oils, and PAGs form strong lubricating films that minimize friction and wear—especially under high loads or during frequent start-stop operations.



Optimized grease structure & cost efficiency

Esters enhance soap fiber formation during saponification, resulting in smoother grease texture and improved shear stability. Their efficient interaction with thickeners may reduce soap content, offering potential cost savings without sacrificing performance.



Biodegradable & regulatory compliance

Many of Cargill's ester-based solutions are biodegradable, bio-based, suitable for incidental food contact and meet EU Ecolabel criteria (LuSC list). Esters from bio-based feedstock and contain fewer MOSH/MOAH impurities than mineral oils—ideal for food-grade applications.



Synthetic ester base fluids

Function	Product Name	Chemistry	Key Specifications					Regulatory Compliance and Sustainability			
			Kinematic viscosity at 40°C (mm ² /s)	Kinematic viscosity at 100°C (mm ² /s)	Viscosity index	Pour point (°C)	Acid value (mgKOH/g)	NSF HX-1 (for use in incidental food contact)	LuSC list (EU Ecolabel)	Biodegradable OECD 301B (>60%)	Biobased carbon content (%) (ASTM D6866)
Synthetic ester	Priolube™ 1426	Polyol ester (unsaturated)	65	13	208	-27	1.8			•	85
	Priolube™ 1847	Complex ester	1040	90	167	-24	0.1		•	•	81
	Priolube™ 1851	Complex ester	495	49	153	-36	0.1		•	•	95
	Priolube™ 1856	Diester	12.5	3.3	140	-78	0.05	•		•	
	Priolube™ 1888	Trimellitate Ester	72.5	9.5	109	-45	0.025				
	Priolube™ 1889	Polyol ester (saturated)	170	17	107	-29	0.4				<60
	Priolube™ 1929	Complex ester	1700	125	175	-21	0.1				
	Priolube™ 1935	Diester	14.5	3.7	149	-72	0.05			•	
	Priolube™ 1936	Diester	26	5.3	139	-54	0.05		•	•	
	Priolube™ 1938	Trimellitate Ester	143	13.1	83	-30	0.05				
	Priolube™ 1939	Trimellitate Ester	306	20.2	73	-9	0.05				
	Priolube™ 1940	Trimellitate Ester	91	9.6	78	-36	0.05				
	Priolube™ 1941	Trimellitate Ester	52	8	124	-45	0.05				
	Priolube™ 1942	Trimellitate Ester	71	9.6	116	-48	0.05				
	Priolube™ 1943	Trimellitate Ester	97	11	98	-39	0.05				
	Priolube™ 1968	Polyol ester (unsaturated)	100	13	127	5	2			•	86
	Priolube™ 1973	Polyol ester (saturated)	46	8	148	-44	0.05		•	•	87
	Priolube™ 2046	Complex ester	400	40	163	-36	0.1				85
	Priolube™ 2065	Polyol ester (unsaturated)	48	9.8	196	-39	1	•	•	•	90
	Priolube™ 2087	Complex ester	320	35	150	-40	0.5		•	•	88
	Priolube™ 2088	Complex ester	320	35	150	-40	0.15	•	•	•	94
	Priolube™ 2089	Polyol ester (unsaturated)	44	8.7	181	-54	0.05		•	•	92
	Priolube™ 2500	Polyol ester (saturated)	90	13	143	-24	0.5	•	•	•	80
	Priolube™ 2720	Polyol ester (saturated)	20.4	4.6	143	-51	0.05				
	Priolube™ 3970	Polyol ester (saturated)	20	4.4	140	-51	0.05	•	•	•	81
	Priolube™ 3971	Polyol ester (saturated)	30	5.9	144	-3	0.05		•	•	85
	Priolube™ 3986	Complex ester	47000	2000	278	6	0.1		•	•	85
Priolube™ 3987	Polyol ester (saturated)	145	18.2	140	-33	0.1		•	•	95	
Priolube™ 3999	Polyol ester (unsaturated)	90	14	144	-27	0.05	•		•	87	
Polyalkylene glycol	Emkarox™ VG 1055W	Polyalkylene glycol	1052	171	284	-24		•			
	Emkarox™ VG 380	Polyalkylene glycol	380	61	234	-33					

Natural ester base fluids

Function	Product Name	Chemistry	Region	Key Specifications					
				% °C 12:0 [lauric acid]	% °C 14:0 [myristic acid]	% °C 16:0 [palmitic acid]	% C 18:0 [stearic acid]	% °C 18:1 [oleic acid]	% °C 18:2 [linoleic acid]
Natural ester	Agri-Pure™ 20	Coconut oil	North and South America	46	19	9.5	3.4	6.7	1.7
	Agri-Pure™ 25	Soybean oil		0.1	10.5	4.4	23	52.9	
	Agri-Pure™ 315	High oleic blend							
	Agri-Pure™ 40	Corn Oil		11	1.8	29.2	55.2		
	Agri-Pure™ 60	Canola oil		0.7	4.1	1.9	62.9	19.7	
	Agri-Pure™ 75	High oleic blend		75					
	Agri-Pure™ 80	High oleic sunflower	3.7	3.3	84.7	6			
	Agri-Pure™ AP 60	Rapeseed oil	Europe Middle East and Africa	0.7	4.1	1.9	62.9	19.7	
	Agri-Pure™ AP 80	High oleic sunflower oil		3.7	3.3	84.7	6		

Additives

Function	Product Name	Chemistry	Key Specifications		Regulatory Compliance and Sustainability	
			Pour point (°C)	Acid value (mgKOH/g)	Biodegradable OECD 301B (>60%)	Biobased carbon content (%) (ASTM D6866)
Corrosion inhibitor	Perfad™ 9013	Blends	-18			
Soap production	Priacid™ A95	Azelaic acid		575		100
	Prisorine™ 3501	Isostearic, fatty acid		187	•	100
	Prisorine™ 3508	Isostearic, fatty acid	28	182	•	
	Pristerene™ 4963	Stearic, fatty acid				





Let's solve what's next – *together*

Whether you're optimizing performance, improving processing, or tackling formulation challenges, our technical experts are here to help. Connect with us to explore tailored solutions that meet your specific needs.



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