REZILUBE ™ SYNTHETIC & RENEWABLE ESTERS - LUBRICANTS

HallStar
Right Chemistry...Positive Solutions

Rezilube™ synthetic and renewable esters are Group V base oils and additives designed to improve the performance of finished lubricants. They provide excellent performance with regard to viscosity stability, volatility, pour and flash points. Rezilube™ esters can increase the longevity of a lubricant, reducing maintenance and disposal costs.

Complex Polyol Esters

Rezilube™ Complex Polyol Esters are used in applications with extreme temperature and pressure conditions. These are useful in AW(anti-wear) and EP(extreme pressure) applications. Rezilube™ polymeric esters offer excellent volatility resistance that can provide savings due to loss of product. Additionally, they are beneficial when formulating products with biodegradability requirements.

Product	Viscosity @ 40˚C, cSt ASTM D7042-04	Viscosity @ 100˚C, cSt ASTM D7042-04	Viscosity Index, (VI) ASTM D7042-04	Total Acid Number mg KOH/g AOCS Cd3a-63	Hydroxyl Value mg KOH/g ASTM D4274	Specific Gravity @25˚C ASTM D4052	Color (max) APHA ASTM D1209 Gardner D1544	Moisture Content % ASTM E203	Pour Point ˚C ASTM D97	Flash Point COC, °C ASTM D92	Renewable Content ASTM D6866	Biodegrad-ability OECD 301B
Rezilube™ A-32	32	7	187	0.35	4	0.971	250	0.03	-66	205	N/A	>60%*
Rezilube™ A-46	46	9	185	0.35	4	0.983	250	0.03	-51	205	N/A	>60%*
Rezilube™ A-68	65	12	182	0.35	5	0.997	250	0.03	-46	205	N/A	>60%*
Rezilube™ A-100	100	16	174	0.4	8	1.011	250	0.03	-46	210	N/A	>60%*
Rezilube™ A-150	149	22	171	0.5	8	1.027	250	0.03	-37	215	N/A	>60%*
Rezilube™ A-220	213	28	171	0.7	9	1.040	250	0.03	-34	220	N/A	>60%*
Rezilube™ A-320	322	38	170	0.6	10	1.056	250	0.03	-32	230	N/A	>60%*
Rezilube™ A-460	455	49	170	0.7	10	1.067	250	0.04	-26	235	N/A	>60%*
Rezilube™ A-680	687	70	177	0.8	12	1.073	250	0.04	-18	240	N/A	>60%*
Rezilube™ A-950	950	77	158	1	25	1.058	250	0.03	-15	282	N/A	>60%*
Rezilube™ A-1000	999	93	181	0.9	14	1.080	250	0.04	-15	255	N/A	>60%*
Rezilube™ G-1300	1300	93	152	0.6	30	1.070	250	0.02	-9	271	N/A	>60%
Rezilube™ A-1400	1400	130	199	1	16	1.080	250	0.05	11	282	N/A	100%
Rezilube™ A-1500	1493	131	192	1.1	16	1.089	250	0.05	-18	270	N/A	>60%*
Rezilube™ A-2100	2147	153	178	3	25	1.102	200	0.1	2	296	N/A	>60%*
Rezilube™ BBX90	3400	286	230	5	50	1.128	250	0.07	-18	200	N/A	>60%*
Rezilube™ A-5400	5400	378	225	0.5	25	1.110	250	0.10	11	232	N/A	>60%*
Rezilube™ S-5700	5748	426	240	5	50	1.060	500	0.1	-4	299	N/A	>30%*
Rezilube™ A-7000	7075	472	235	2	25	1.127	3 Gardner	0.1	-1	293	N/A	>60%*
Rezilube™ A-8500	8485	387	187	0.8	25	1.082	250	0.01	11	260	N/A	>60%*
Rezilube™ A-21000	20588	1310	292	1.9	20	1.17	250	0.1	7	291	N/A	>60%*
Rezilube™ A-42000	41864	1963	285	2	15	1.150	500	0.1	11	307	N/A	>60%*
Rezilube™ S-70000	69500	4730	377	1.5	25	1.057	7 Gardner	0.05	15	316	N/A	>30%*

Renewable Esters

Rezilube™ Renewable Esters are used in applications where renewable and biodegradable products are required.

Product	Viscosity @ 40˚C, cSt ASTM D7042-04	Viscosity @ 100˚C, cSt ASTM D7042-04	Viscosity Index, (VI) ASTM D7042-04	Total Acid Number mg KOH/g AOCS Cd3a-63	Hydroxyl Value mg KOH/g ASTM D4274	Specific Gravity @25˚C ASTM D4052	Color (max) APHA ASTM D1209 Gardner D1544	Moisture Content % ASTM E203	Pour Point ˚C ASTM D97	Flash Point COC, °C ASTM D92	Renewable Content ASTM D6866	Biodegrad-ability OECD 301B
Rezilube™ R-12	12	4	275	0.5	0	0.910	100	0.1	18	238	100%	>60%*
Rezilube™ R-26	26	5	120	0.8	5	1.022	100	0.05	-4	238	100%	100%
Rezilube™ R-5700	5748	426	240	5	50	1.060	500	0.1	-4	299	99%	>30%*
Rezilube™ R-70000	69500	4730	377	1.5	25	1.600	7 Gardner	0.05	15	310	99%	>30%*

Monoesters

Rezilube™ Monoesters are longer chain fatty esters that provide excellent lubricity. These products perform well in a variety of metalworking applications.

Rezilube™ IPP	5	2	276	0.2	N/T	0.852	15	0.1	14	166	N/A	N/T
Rezilube™ Butyl Tallate	6	2	220	3	1	0.875	13 Gardner	0.1	-21	204	N/A	N/T
Rezilube™ BES	6	3	185	1	1	0.878	60	0.1	16	193	N/A	N/T
Rezilube™ BST	6	2	133	1	1	0.857	50	0.1	20	191	N/A	N/T
Rezilube™ IBST	7	2	180	1	N/T	0.855	100	0.2	18	93	N/A	N/T
Rezilube™ Isooctyl Tallate	9	3	204	0.5	0.5	0.872	10 Gardner	0.1	-29	227	N/A	N/T
Rezilube™ EHO	9	3	179	7	3	0.866	10 Gardner	0.1	-32	204	N/A	N/T
Rezilube™ OP	9	3	175	0.5	1	0.857	20	1	-4	180	N/A	N/T
Rezilube™ GC	15	4	137	0.3	10	0.940	100	0.2	-12	257	N/A	N/T
Rezilube™ PEG 200 ML	21	5	148	2.5	N/T	0.990	1 Gardner	0.1	7	213	N/A	N/T
Rezilube™ PEG 200 MO	28	6	170	3.5	90	0.889	2 Gardner	0.1	-18	177	N/A	N/T
Rezilube™ GMO	77	10	105	1	N/T	0.940	3 Gardner	1	4	150	N/A	N/T

Diesters

Rezilube™ Diesters are low viscosity products that provide good viscosity index, extremely low pour points, and biodegradability. These products perform well in Greases, Hydraulic Fluids, Compressors, and Metalworking Fluids.

Rezilube™ DOA	8	2	120	0.30	0	0.926	50	0.08	-65	193	N/A	>60%*
Rezilube™ DBEEA	11	3	163	0.50	0	1.012	2 Gardner	0.05	-65	152	N/A	>60%*
Rezilube™ DOZ	11	3	135	0.50	0	0.917	500	0.05	-65	199	N/A	>60%*
Rezilube™ DOS	12	3	125	0.20	0	0.913	100	0.05	-60	232	N/A	>60%*
Rezilube™ DIDA	15	4	120	0.10	0	0.916	50	0.04	-70	227	N/A	>60%*
Rezilube™ DIDS	20	5	170	0.20	0	0.907	100	0.05	-60	250	N/A	>60%*
Rezilube™ DTDA	27	5	140	0.05	0	0.910	200	0.05	-50	241	N/A	>60%*

Dimerates

Rezilube™ DOD	89	13	150	2 max	3	1.078	8 Gardner	0.1	-43	190	N/A	N/T

Pentaerythritols

Rezilube™ PEH	23	5	150	2 max	12	0.983	200	0.1	-40	295	N/A	>60%*

N/A- Not applicable; N/T- Not tested; * - Not tested but internal data suggests results