

# LINSEED OILS



OILS & FATS

FOOD

FEED

NUTRITION

INDUSTRIAL

## QUALITY BACKED BY GLOBAL DISTRIBUTION

Manufacturers looking for first-quality linseed oils in a broad selection of viscosities for their applications look to ADM first.

Our portfolio includes a wide range of raw, boiled, grinding, varnish, oxidized, and heat-bodied oils, as well as copolymers, oils with driers, and anti-spalling compounds.

From our roots as a small pioneering linseed oil processor, we've become the market leader, using the most advanced technology and equipment to manufacture a selection of products to fit many applications:

Paints	Driers	Varnishes
Inks	Hardboard	Grinding oils
Coatings	Core oils	Alkyd resins

## STRONG GLOBAL SUPPORT

Behind ADM's linseed oils are comprehensive global networks providing the highest service to you. We operate one of the world's largest transportation networks, distributing product all over the globe via rail, river, road, and ocean.

And through our global research and development network, our chemists and scientists provide technical and application-specific support for you. From polymer synthesis to paint and coatings formulations, we're here for you.

## VARNISH OILS

PRODUCT	VISCOSITY (G-H)	SAPON. VALUE	IODINE VALUE	ACID VALUE	COLOR GARD. '53	AVERAGE LBS. PER GAL. AT 25° C	ADM CODE
<i>Non-Break</i>	A <sub>1</sub> -A	189-195	175-190	0.5 max.	11 max.	7.71	001-102
Alkali refined oil. Designed for resins not requiring lightest color retention on long heating. Good cooking characteristics. Uses: alkyds, varnishes, vehicles, driers							
<i>Refined and Bleached</i>	A <sub>1</sub> -A	189-195	175-190	0.3 max.	6 max.	7.71	001-109
Fully alkali refined and bleached. Will not break at varnish kettle temperatures. Bleaches water white on heating. Uses: varnishes, enamels, driers, grinding oils							
<i>Superb</i>	A <sub>1</sub> -A	189-195	175-190	0.3 max.	6 max.	7.71	001-110
Fully alkali refined, bleached, and dewaxed. Will not break at varnish kettle temperatures. Bleaches water white on heating. The finest alkali refined oil made. Meets Fed. Spec. TT-L 1155. Uses: High-quality, fast-drying resins, varnishes, enamel vehicles, printing inks, epoxidation							
<i>Varnish</i>	A <sub>1</sub> -A	189-195	175-190	2-4	6 max.	7.71	001-150
Break free. Takes good heat bleach and has excellent color retention on long heating. Uses: resins, varnishes, enamels, driers, grinding oils							



ADM produces an extensive range of natural oils and fats for food, feed, nutrition, and industry. **RESOURCEFUL BY NATURE™**

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PRODUCT	VISCOSITY (G-H)	SAPON. VALUE	IODINE VALUE	ACID VALUE	COLOR GARD. '53	AVERAGE LBS. PER GAL. AT 25 C	ADM CODE	REMARKS	USES
<b>RAW AND BOILED OIL</b>									
<i>Raw</i>	A <sub>1</sub> -A	189-195	177-190	4 max.	11 approx.	7.72	001-010	Well settled, double filtered. Specific gravity 0.926-0.931 at 25° C. Meets ASTM Spec. D 234, Federal Spec. TT-L-215, AASHO M-125-60.	Core oils, caulking compounds, paints, tempering oil, etc.
<i>Scientific Boiled</i>	A-B	189-195	170-185	7.5 max.	12 max.	7.75	001-030	A clear, brilliant oil free of moisture. Scientifically incorporated driers in the proper proportions ensure a thoroughly dried film. Meets ASTM D 260-Type 1 and Fed. Spec. TT-L-190.	Paints (drying time 6-16 hours), anti-spalling compounds
<i>Scientific Double Boiled</i>	A-B	189-195	165-185	8 max.	14 max.	7.76	001-045	An oil of the same type as the above but containing additional driers. Meets ASTM D 260, Type 2.	Paints (drying time 8 hours max.), anti-spalling compounds, carbon electrodes
<b>GRINDING OILS</b>									
<i>White Refined</i>	A <sub>1</sub> -A	189-195	170-190	2-4	5+ max.	7.71	001-215	A uniform alkali refined oil. Low acidity and light color. For grinding reactive pigments.	Grinding and letting down whites and light tints
<i>Bleached</i>	A <sub>1</sub> -A	189-195	170-190	8-9	7 max.	7.71	001-230	Light in color. Refined. Free from mineral acids.	All purpose
<i>Pale Grinders</i>	A <sub>1</sub> -A	189-195	170-190	12-15	7 max.	7.71	001-235	High acidity. Excellent wetting properties. Light in color.	All purpose
<b>SPECIALTY OILS</b>									
<i>ML 189</i>	Z <sub>3</sub> -Z <sub>4</sub>	162-172	145-160	4 max.	11 max.	7.81	001-055	Dicyclopentadiene copolymer. Fast drying. Good alkali resistance. Can be made with lighter base for lighter color.	Varnishes, enamels, aluminum paints, reinforced oils
<i>ML 189-70</i>	S-W	100-115	115-130	4 max.	11 max.	7.61	001-057	70% ± solids.	Varnishes, enamels, aluminum paints, reinforced oils
<i>Pale Litho #0000</i>	D-E	190-196	130-150	2-4	3-6	7.86	001-601	Gardner lithographic series. Pale litho oils are lighter colored and lower acid number than regular litho oils.	Lithographic inks, varnishes, paints
<i>Toplin X-Z</i>	X-Z	215-225	147-158	8 max.	10 max.	7.80-7.90	001-800	Fast drying. Fast bodying. Improves water resistance over straight oils.	Substitute for tung oil in resins, varnishes, printing inks, hardboard
<i>Toplin P with driers</i>	N-R	215-225	147-158	8 max.	10 max.	7.80-7.90	001-802	Fast drying. Fast bodying. Improves water resistance over straight oils. Drying time 16 hours.	Substitute for tung oil in resins, varnishes, printing inks, hardboard
<i>Toplin P</i>	N-R	215-225	147-158	8 max.	12 max.	7.80-7.90	001-803	Fast drying. Fast bodying. Improves water resistance over straight oils.	Substitute for tung oil in resins, varnishes, printing inks, hardboard
<i>Anti-Spalling</i>	A-B*	185-195*	165-175*	7.5 max.*	12 max.*	7.15	001-901	Anti-spalling compound. Percent solids 53.5-54.5%. Set to touch nine-hour maximum.	Boiled linseed oil meeting ASTM D2 and ASHO, 50% mineral spirits meeting ASHO

OXIDIZED OILS

PRODUCT	VISCOSITY (G-H)	SAPON. VALUE	IODINE VALUE	ACID VALUE	COLOR GARD. '53	AVERAGE LBS. PER GAL. AT 25 C	ADM CODE	REMARKS	USES
<i>Special Raw</i>	C-E	194-202	150-175	2.5-5	11 max.	7.86	001-140	Slightly oxidized. Rapid bodying. Will not break at varnish kettle temperatures. Uses 10-20% of oil to total vehicle for improved gloss, flow, and wetting properties. Imparts excellent flow and gloss to paints.	Vehicles, printing inks, grinding oils

\*Based on 100% solids

## HEAT-BODIED OILS

### OKO™ SERIES

The finest heat-polymerized oils available. Made by a special vacuum process, they possess low acid numbers and exceptionally light color. All viscosities give superior gloss, flow, brushability, and non-yellowing characteristics compared to ordinary bodied oils. Low-temperature vacuum cooking keeps gelatin to a minimum and prevents thickening or "livering." Supplied in seven standard viscosities. Other viscosities may be obtained on special order. Meet Fed. Spec. TT-L-201, Type 2.

Uses: house paints, enamels, varnishes, printing inks, mastics, etc.

PRODUCT	VISCOSITY (G-H)	SAPON. VALUE	IODINE VALUE	ACID VALUE	COLOR GARD. '53	AVERAGE LBS. PER GAL. AT 25° C	ADM CODE
OKO S-37	Z <sup>-</sup> - Z <sup>+</sup>	190-196	115-130	1-3	6 max.	7.96	001-510
OKO S-70	Z <sub>2</sub> <sup>+</sup> - Z <sub>3</sub> <sup>-</sup>	190-196	115-130	1-3	6 max.	7.99	001-515
OKO M-2 ½	Z <sub>4</sub> <sup>-</sup> - Z <sub>4</sub> <sup>+</sup>	190-196	115-130	1-3	6 max.	8.00	001-520
OKO M-7 ½	Z <sub>6</sub> <sup>+</sup> - Z <sub>7</sub> <sup>-</sup>	190-196	115-130	1-3	6 max.	8.03	001-525
OKO M-17	Z <sub>7</sub> <sup>+</sup> - Z <sub>8</sub> <sup>-</sup>	190-196	115-130	1-3	6 max.	8.03	001-530
OKO M-25	Z <sub>8</sub> <sup>-</sup> - Z <sub>8</sub> <sup>+</sup>	190-196	115-130	1-3	6 max.	8.03	001-535
OKO M-37	Z <sub>9</sub> <sup>-</sup> - Z <sub>9</sub> <sup>+</sup>	190-196	115-130	1-3	6 max.	8.03	001-540

### ALINCO™ SERIES

Closed-kettle, heat-bodied oils of medium acid range. Supplied in 11 standard viscosities. M-25 may be used as a puffing agent. Meet Fed. Spec. TT-L-201, Type 1.

Uses: house paints; enamels; flat wall finishes; and other paints, varnishes, and printing inks

PRODUCT	VISCOSITY (G-H)	SAPON. VALUE	IODINE VALUE	ACID VALUE	COLOR GARD. '53	AVERAGE LBS. PER GAL. AT 25° C	ADM CODE
Alinco Q	P-S	190-196	130-150	4-7	8 max.	7.86	001-420
Alinco X	X <sup>±</sup> ½	190-196	120-130	4-7	8 max.	7.93	001-425
Alinco Y	Y <sup>±</sup> ½	190-196	120-130	4-7	8 max.	7.95	001-430
Alinco Z	Z <sup>±</sup> ½	190-196	120-130	4-7	8 max.	7.96	001-435
Alinco Z-1	Z <sub>1</sub> <sup>±</sup> ½	190-196	120-130	5-9	8 max.	7.96	001-440
Alinco Z-2	Z <sub>2</sub> <sup>±</sup> ½	190-196	115-125	5-9	8 max.	7.99	001-445
Alinco Z-3	Z <sub>3</sub> <sup>±</sup> ½	190-196	115-125	5-9	8 max.	8.01	001-450
Alinco Z-4	Z <sub>4</sub> <sup>±</sup> ½	190-196	115-125	5-9	8 max.	8.01	001-455
Alinco Z-5	Z <sub>5</sub> <sup>±</sup> ½	190-196	115-125	5-9	8 max.	8.03	001-460
Alinco Z-6	Z <sub>6</sub> <sup>±</sup> ½ - Z <sub>6</sub> <sup>+</sup> ¼	190-196	115-125	5-9	8 max.	8.03	001-465
Alinco M-25	Z <sub>6</sub> <sup>-</sup> - Z <sub>8</sub> <sup>+</sup>	190-196	115-125	8-12	8 max.	8.03	001-480