



1ST “SYNTHETIC WHITE OIL”

## CRYSTAL - CLEAR<sup>®</sup> FDA

**Crystal-Clear FDA** is an anti-wear, rust and oxidation stable, 100% synthetic fluid. Crystal-Clear FDA is a clean, pure, non-reactive synthetic fluid that meets all of the FDA requirements of a white mineral oil plus the superior lubrication of a synthetic oil. Crystal-Clear FDA's 1) high viscosity index, 2) high thermal stability, 3) low coefficient of friction and 4) high specific heat index enable it to outperform white mineral oils over an extremely wide temperature range. Crystal-Clear FDA is also available in ISO Grades 10 through 680 offering vastly greater choices to the user to prevent wear and maximize the life and performance of his equipment.

### Crystal-Clear FDA fluids advantages:

- Environmentally Safe - not on EPA VHAP list (volatile hazardous air pollutants).
- First Synthetic White Oil sanctioned under “FDA 21 CFR 178.3620(a) & (b) & 172.878”  
Also sanctioned under 21 CFR 175.105 - 176.200 - 176.210 - 177.2260, 2600 & 2800 - 178.3570 & 3910. Approved by USDA for both H-1 & H-2 service.
- Minimal disposal problems - (recycled, burned or disposed - the same as mineral oil).
- Very low moisture content - increases bearing and oil life.
- Remains dry because it separates rapidly and completely from water.
- Highest purity - does not contain impurities such as sulfur, vanadium, amines, etc. that would be harmful or reactive to process fluids - or poison the catalyst if it enters a process stream.
- Provides excellent wear protection - greater lubricity and film strength than white oils.
- Provides maximum heat transfer to help keep equipment running cool.
- Multi-viscosity oil with excellent fluidity at low temperatures, enabling one oil to be used throughout the year in colder climates.
- Has maximum stability at high temperature.
- Has a high flash point for maximum safety.
- Has wide seal compatibility range: viton, neoprene, Buna N (except high ACN), teflon, silicone, polyurethane ester, epichlorahydrin, polysulfide, ethylene/acrylic, polyacrylate, flourosilicone, propylene oxide, chlorosulfonated polyethylene, chlorinated polyethylene, kalrez, nordel, fluoroelastomer, nitrile, and others.

**Crystal-Clear FDA** offers operators the first opportunity to upgrade equipment lubrication from mineral white oil to a “high performance synthetic oil.” Not only does it outperform mineral white oil, but it is offered in more viscosity grades, including heavy grades where there is no white oil equivalent.

Recommended to replace mineral white oil where improved service life and equipment reliability is required.

# CRYSTAL-CLEAR FDA<sup>®</sup>

## FDA Pure Synthetic

### Typical Properties

ISO GRADE	22	32	46	68	100 40X	150	220	320
Viscosity, cSt @ -40°F	12,042	14,510	19,000	-	-	-	-	-
@ 100°F	24.4	35.5	48.6	77.8	101.8	166.4	242.8	360.8
@ 210°F	4.52	6.29	7.52	9.79	7.27	17.98	21.76	28.5
Viscosity, SSU @ 100°F	117	165	226	361	472	771	1124	1671
@ 210°F	41.2	46.8	50.8	58.5	55	90	106	135.7
Pour Point °F	-80	-80	-75	-65	-45	-40	-35	-30
Flash Point, °F	475	475	480	485	485	485	490	495
Fire Point, °F	520	520	525	530	535	540	540	520
ASTM D-664, Acid No.	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Foaming, ml								
Sequence 1, 75°F	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Sequence 2, 200°F	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Sequence 3, 75°F (1 Minute Settling)	0	0	0	0	0	0	0	0
ASTM D-1401 Demulsibility 40/40/0/15 test results	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Corrosion Oxidation Tests								
3 Hours, 210°F	1A	1A	1A	1A	1A	1A	1A	1A
ASTM D-665 Rust Test								
Fresh Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Salt Water	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

\* Properties are typical and may vary.

\*\* Other ISO Grades available.

\*\*\* Also available as Crystal-Clear FDA X, which has identical physical properties as Crystal-Clear 40X plus added tacky to minimize oil carryover when used in vacuum pump service and gas compressor.