



WATER TREATMENT

CHEMICALS AND LUBRICANTS

Contaminants are removed to enhance the water quality in the water treatment process. As part of this process, Calumet isoparaffinic and aliphatic solvents (CONOSOL[®], LVT[®], and LVP) can be used in the flocculation process to promote agglomeration of particles in the solution. Calumet's DRAKEOL[®] DWT white oils are used for material handling & process, pumping between tanks, or as lubricants in piping.

WHITE OILS

When choosing white oils, it is important to consider certifications and testing standards for each product. These standards ensure the quality standards for chemical contaminants and impurities that may be directly or indirectly imparted on the water. The white oils can be involved in the filtration process or used as lubricants for internal and external piping and well pumps.

DRAKEOL[®] DWT products meet the following FDA Regulations for Purity:

- 21 CFR 178.3620 (a) - Regarding white mineral oil on Indirect Food contacts
- 21 CFR 573.680 - Regarding technical white mineral oil with Animal Food Additive
 - Meets USP/NF/EP requirements
 - Facility Credentials: meets ISO 9001:2015, Products certified Kosher OU
 - NSF/ANSI/CAN 60 American National Standard for evaluation of water treatment chemicals

TYPICAL PROPERTIES

PROPERTIES	METHOD	DRAKEOL 19 DWT	DRAKEOL 35 DWT
API Gravity @ 60 °F	D4052	33.5	31.3
Specific Gravity @ 60/60 °F	D4052	0.8577	0.8694
Color (Saybolt)	D156	30	30
Viscosity @ 40 °C (cSt)	D7042	36.05	68.3
Viscosity @ 100 °F (SUS)	D2161	185.1	354.9
Flash Point °F, COC	D92	429	453
Odor	USP/NF	PASS	PASS
Acidity	USP	PASS	PASS
Infrared Absorption	USP	PASS	PASS
Limit of PAH	USP	PASS	PASS
Limit of Sulfur Compounds	USP	PASS	PASS
Readily Carbonizable Subs	USP	PASS	PASS
Solid Paraffins	USP	PASS	PASS
FDA 21 CFR 172.878	FDA	PASS	PASS



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SOLVENTS

The hardware of each system can be different and therefore product selected should be chosen based on equipment needs and polymers used. In the flocculation process, solvent products are used with polymers as a flocculant agent to separate solids from liquids and to enhance the process agglomeration.

Light viscosity oils give us the ability to agitate (high speed) to drive components together. Calumet's isoparaffinic and aliphatic solvents (CONOSOL®, LVT®, and LVP) provide optimal combination to solvate the flocculant and coagulant agents.

Most water treatment facilities use cationic polymers (positively charged) because wastewater is anionic (negatively charged). Therefore, for the best emulsified solution, it is important to choose isoparaffinic solvent for cationic polymers and aliphatic solvent for anionic polymers.

Additionally, the following technical requirements are ideal:

- Low pour point helps with flow characteristics in the mixing tank
- Low aniline point provides better solvency
- Low aromatics

TYPICAL PROPERTIES

ISOPARAFFINIC

ALIPHATIC

PROPERTIES	ASTM METHOD	CONOSOL C-170	CONOSOL C-200	CONOSOL 260	CONOSOL 340	LVT 210	LVP 100	LVP 200	LVP 300
Aniline Point (°F)	D611	165.2	168.2	191.0	189.8	N/A	172.8	179.5	191.5
Aromatic Content (Wt.%)	D5186	0.0	0.0	0.1	0.0	<0.5	<1.0	<1.0	<1.0
Color, Saybolt	D156	+30	+30	+30	+30	+30	+30	+30	+30
Flash Point, COC (C), PMCC (P) (°F)	D92/D93	178 (P)	212 (P)	285 (P)	341 (C)	205 (C)	201 (P)	242 (P)	256 (C)
Kauri-Butanol Value	D1133	31.6	28.9	23.8	23.7	N/A	26.7	25.0	23.1
Kinematic Viscosity @ 40 °C (cSt)	D445	2.08	2.18	3.74	7.86	1.99	1.91	2.80	3.67
Specific Gravity @ 60/60 °F	D4052	0.8027	0.8218	0.8230	0.8529	0.7917	0.7975	0.8115	0.8183
Distillation Range, IBP (°F)	D86	377	434	519	599	424	431	485	512
Distillation Range, EP (°F)	D86	459	519	596	642	518	474	538	590
BTEX (Detection Limits per EPA Drinking Water MCLs)	—	—	—	—	—	—	—	—	—
Benzene (5 ppb)	EPA 8260B	ND	ND	ND	ND	ND	ND	ND	ND
Toluene (700 ppb)	EPA 8260B	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene (1 ppm)	EPA 8260B	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (10 ppm)	EPA 8260B	ND	ND	ND	ND	ND	ND	ND	ND

TECHNICAL ASSISTANCE

For product or technical questions, contact your Sales Representative or Calumet Product Support at (800) 437-3188 or email technical@calumet.com.

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Calumet's sampling and testing procedures in effect at the time of production will be used for certification testing. Results may be based on tank certification, manufacturing data, periodic testing and/or most recent product restock. Typical values only represent the values one would expect if the property were tested in our laboratories with our test methods on the specified date. Some product properties are not frequently measured, and accordingly typical values are not based on a statistically relevant number of tests. The information in this document relates only to the named product. The user is solely responsible for all determination regarding any use and any process.

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Rev. 9/24



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