

SYLVASOLV™

Biobased Oils

High-Performance Biobased Oils for Cleaning Applications

SYLVASOLV™ oils are 100% biobased with high solvency power, providing exceptionally high performance in cleaning difficult hydrophobic materials such as grease, tar, and other tough soils. These oils find use in various cleaning applications including degreasers, heavy-duty hand washers, tank and rail car cleaning and hard surface cleaners.

SYLVASOLV oils are derived from pine wood pulping by-products from responsibly managed forests providing formulators with a 100% biobased, lower carbon footprint, no land use change, and non-food sourced solvent option in cleaning formulations. SYLVASOLV oils are a possible alternative to petroleum distillates, vegetable oil esters or terpene-based solvents. Additionally, SYLVASOLV oils are non-flammable with minimal VOC (CARB LVP-VOC certified) offering safer handling.

Performance and Property Benefits:

- » Exceptional Solubility Power
- » Improved Cleaning
- » Faster Cleaning
- » Non-flammable
- » Minimal VOC
(CARB LVP-VOC classified)

Sustainability Advantages:

- » 100% Biobased*
- » Sourced from Responsibly
Managed Forests
- » Lower Carbon Footprint**
- » Non-food Source
- » Does Not Compete for Land
with Food Crops

Applications:

- » Industrial Tank Cleaning
- » Rail Car & Tank Truck Cleaning
- » Heavy-Duty Hand Cleaners
- » Hard Surface Cleaners
- » Metal Surface Cleaning

*Provisional biobased carbon content based on radiocarbon C14 test by USDA certified lab, according to USDA BioPreferred® program.




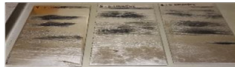





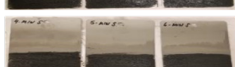
**Product specific biogenic carbon credit depends on process, composition and local energy source.

SYLVASOLV Biobased Oil Physical Properties

Property	Method	1000 Series	3000 Series	Unit
Kinematic Viscosity (40°C)	ASTM D-445	45	22	cSt
Density at 20°C	ASTM D-1480	0.97	0.96	g/cm3
Color	AQCM 002	12	2	Gardner
Acid Value	AQCM 001	8	3	mg KOH/g
Flash Point (COC)	ASTM D-92	145	142	°C
Pour Point	ASTM D-97	-14	-24	°C
Aniline Point	ASTM D-611	13	13	°C
KB Value	ASTM D-1133		58	
Hansen Solubility, D	HSPIP	16.3	15.8	
Hansen Solubility, P	HSPIP	3.6	3.1	
Hansen Solubility, H	HSPIP	8.5	8.8	

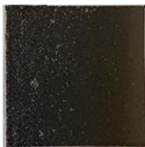







Lithium Complex Grease Scrub Test

Cleaning coupons by scrub test on lithium complex greases with neat solvents.

	Initial Application	After 5 Scrub Cycles
SYLVASOLV		
D-Limonene		
Methyl Soyate		
Toluene		
Mineral Spirits		

SYLVASOLV oils outperform D-Limonene, Methyl Soyate, Toluene and Mineral Spirits, in cleaning lithium complex greases after a 5 cycle, back and forth wipe.

Cleaning coupons by scrub test on lithium complex greases with solvents in formulated cleaners at 5% concentration.

	5% SYLVASOLV	5% D-Limonene	5% Methyl Soyate	DI Water
Before scrub				
At 20 cycles				

SYLVASOLV oils perform equal to D-Limonene and Methyl Soyate after a 20 cycle back and forth wipe.

KRATON CORPORATION

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