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## Product

## | Type

**Winter Formula**

**Multifunctional Diesel Fuel Additive**

**New Generation Performance Diesel Fuel Additive**

## Application

Designed to improve the quality characteristics of diesel fuel.

Recommended for use at:

462—1890 ppm v/v

## Physical Characteristics

	Minimum	Target	Maximum
BASE NUMBER (MGKOH/G)		1.7	
FLASH POINT, C, PMCC		52	
LBS PER U.S. GAL @ 15.6 C		7.43	
LBS PER IMP GAL @ 15.6 C		8.92	
POUR POINT, C		-45	
SPECIFIC GRAVITY @ 15.6 C	0.872	0.892	0.912
VISCOSITY @ 40 C, CST		4	

## Chemical Characteristics

	Minimum % Weight	Typical	Maximum % Weight
NITROGEN		1.66	

## Benefits

Opti-Lube Winter Formula diesel additive contains a revolutionary deposit control additive, which delivers market leading performance in new common rail direct injection systems, as well as outstanding nozzle cleanliness in older engine designs. Opti-Lube Winter Formula allows the fuel marketer to dial in a range of performance levels based on market requirements, using a single

**benefits imparted to diesel fuel quality by Opti-Lube Winter Formula can be summarized as follows.**

- Flextreat support for range of performance levels using a single product increasing customer flexibility and reducing inventory logistics costs for multiple products.
- Increases the cetane number of the fuel for improved performance.
- Enhances the lubricity of fuel.
- Contains cold flow additives to lower CFPP and improve winter operability.
- Able to keep clean and clean up injector deposits in both legacy vehicles and the latest engine designs in both the light duty and heavy duty markets.
- Outstanding performance in the Peugeot DW10 test procedure with the capability to completely prevent loss of engine power and even restore lost power due to fouled injectors at higher product treats.
- Very high levels of deposit control in standard CEC XUD-9 injector fouling test, with capability to achieve 100% flow remaining at extremely competitive product treat rate.
- Clean up XUD-9 indirect injection fuel injectors.
- Elimination of steel corrosion in treated fuel as demonstrated in ASTM D665A procedure.
- Proven performance in mineral-biodiesel blends, including injector keep clean in XUD-9 and DW10 methods.
- Comprehensive no-harms credentials.

# Opti-Lube Winter Formul

# Unloading, storage and blending instructions

**General handling instructions**– In general, Opti-Lube recommends, as a minimum, the use of neoprene or nitrile rubber gloves and safety glasses or chemical splash goggles. The Material Safety Data Sheet should be consulted for specific information and for information on health and safety when handling this product.

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## Fire and explosion hazard data

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Flash Point (method)	Classification
52°C PMCC	Combustible

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## Temperature Recommendations

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UNLOADING	Plumping Temperature	Ambient°C	°F
	Maximum Temperature*	35°C	95°F

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## STORAGE

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Maximum Temperature for Long-Term Storage	35°C	95°F
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## BLEANDING

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Maximum Base Oil Temperature for Mechanical or In-Line Mixing	35°C	95°F
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## EQUIPMENT RECOMMENDATIONS

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Type of Pump	Centrifugal
Type of Transfer Line	Ball Launched
Transfer Line Size	2-3 inch / 5-8 cm.

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## HEAT SOURCE

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Type	N/A
Storage Tanks	N/A

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## NOTES

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POUR POINT	-45°C, -49°F
Low Flash Point:	Use caution when handling this material

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## Additional Recommendations

\*Holding the material in excess of this temperature may cause chemical degradation. Use steam for heating and tracing only when the material is in motion to avoid localized overheating. Cold Temperature Storage - If product has been stored below its pour point temperature it should be heated to 21°C/20°F before using.