



**October 1, 2015**

**SUBJECT: Winterized Diesel Fuel**

When the ambient temperature drops, we will adjust our blend to meet the lower temperature. Regarding our fuel, blending plans for this season are described on the back side of this letter and will be enacted as the weather dictates.

Winter always brings concern for the quality of the diesel fuel that you purchase. The term "winterized" means that there has been a change to the fuel to address the dropping temperature. It can mean blending with #1 diesel, using additives or a combination of both. Terms such as pour point and cloud point are used to inform the fuel user of the cold weather protection. To eliminate the guess work, definitions for the important terms used to define winterized fuel are listed below. Something to keep in mind is the fact that the pour point of diesel fuel is not a satisfactory indicator of its operability limits as filter plugging normally occurs at a temperature considerably higher than pour point. The correct blend of #1 and #2 diesel and the proper amount of additive will lower the cold filter plug point of diesel fuel. This provides the best estimate of low temperature operability.

**Cloud Point:** Temperature at which a cloud or haze of wax crystals appears at the bottom of a sample of distillate fuel in a test jar, when cooled under conditions prescribed by test method ASTM D 2500. Cloud point is an indicator of the tendency of the oil to plug filters or small orifices at cold operating temperatures. It is very similar to WAP.

**Wax Appearance Point (WAP):** The temperature at which wax begins to precipitate out of a distillate fuel, when the fuel is cooled under conditions prescribed by the test method ASTM D 3117. WAP is an indicator of the ability of a distillate fuel to flow at cold operating temperatures. It is very similar to Cloud Point.

**Cold Filter Plug Point:** The temperature at which water and wax crystals begin to plug fuel filters. This is a much more accurate measure of diesel engine operability than either Pour Point or Cloud Point.

**Pour Point:** Pour Point is a widely used, low-temperature flow indicator and is 5 degrees Fahrenheit above the temperature at which normally liquid petroleum product maintains its fluidity. It is a significant factor in cold-weather start-up, but must be considered along with pumpability (the ease with which an oil pumps at low temperatures). Paraffinic oils contain wax, which form a honeycomb of crystals at low temperature near the Pour Point. Naphthenic oils, on the other hand, contain little or no wax and reach their Pour Point through increasing viscosity. They cannot be pumped readily near the Pour Point. ASTM D 97 is used to determine Pour Point. ASTM D 97 also provides for the determination of Cloud Point, the lowest temperature (F) at which the sample becomes clouded by the formation of wax crystals. Clouding is a characteristic only of paraffinic oils. It is a consideration of the evaluation of fuels whose filtration might be impaired by the plugging effect of wax crystals.

**Cold-Flow Improver:** This is an additive used to improve the flow of diesel fuel in cold weather. In some instances, a Cold-Flow Improver may improve operability by modifying the size and structure of the wax crystals that precipitate out of the fuel at low temperatures. This prevents the agglomeration of the wax crystals, but usually has no significant effect on diesel engine performance. The method of improving cold flow is to blend #2 diesel with either kerosene, #1 diesel, or a commercially manufactured additive. Kerosene lowers the Wax Appearance Point by 2 degrees (F) for each 10% increment of kerosene added. Commercially manufactured additives will not alter the Cloud Point, but they do lower the temperature at which the wax in diesel fuel begins to solidify as tiny particles and form large, complex chains throughout the fuel, causing oil to thicken and finally gel. Fuel in this final condition will not flow through fuel lines, filters, etc.

**Innospec CFI 1902 Diesel Fuel Supplement:** A low flash winterized middle distillate fuel additive for improved winter operability. Designed for regions that require an additive with a low pour point for extreme storage conditions. CFI 1902 lowers the cold filter plugging point to prevent fuel gelling in low temperatures. Disperses wax during extended engine shutdowns in cold climates, aids against fuel system icing, and contains a fully synthetic lubricity improver, caustic resistance corrosion inhibitor and antioxidants. This product was specifically designed for ultra low sulfur diesel. It is designed to do the following: 1) Lowers CFPP by as much as 30° F; 2) Lowers Pour Point by as much as 40° F; 3) Disperses Water.

If you have any questions regarding the fuel we provide, please do not hesitate to call Coleman Oil Company toll free at (888) 799-2000 or (208) 799-2000 and ask for Dispatch. They will be glad to let you know what our blend is on that particular day. If you have questions about fuel at other locations please ask the owner/operator at that location.

Sincerely,  
Coleman Oil Company

## **Coleman Oil Company --- October 1, 2015 --- Diesel Fuel Winterizing Plan**

Please visit [www.colemanoil.com](http://www.colemanoil.com) for a map of all our locations.

### **Blend #1:**

+0 cloud point, -10 cold filter plug point, -20 pour point. Winterized Diesel Fuel at the following locations will meet these specifications.

Culdesac, ID - CFN – 50899 Highway 95  
Lewiston, ID - Bulk Plant, CFN – 335 & 337 Mill Rd  
Lewiston, ID - Southway Dyna Mart – 822 16<sup>th</sup> Ave  
Lewiston, ID - 18<sup>th</sup> Street – 212 18<sup>th</sup> Street  
Lewiston, ID - NL Dynamart – 1920 Hwy 128 (N & S Hwy at the bottom of the old spiral highway)  
  
Clarkston, WA - CFN – 13<sup>th</sup> & Port Dr

### **Blend #2:**

-5 cloud point, -15 cold filter plug point, and -25 pour point. Winterized Diesel Fuel at the following locations will meet these specifications.

Coeur d'Alene, ID - Bulk Plant – 103 Summit Ave  
Coeur d'Alene, ID - CFN – 108 Harrison  
Coeur d'Alene, ID - CFN – 3500 Ramsey Rd  
Coeur d'Alene, ID - Hayden Qwik Stop – 1615 W Hayden Ave  
Lewiston, ID - Thain Chevron Dyna Mart – 248 Thain Rd - 10<sup>th</sup> St. & Thain Rd  
Post Falls, ID - CFN – 3160 E. Seltice Way  
Spirit Lake, ID - CFN – 21904 Highway 41

Cashmere, WA - CFN – 132 Titchener Way  
Dayton, WA - CFN & Bulk Plant – 601 Harlem Rd (E Main)  
Eltopia, WA - CFN – 13060 Glade North Road  
Kennewick, WA - CFN – 221 W Vineyard Drive  
Kennewick, WA - CFN – 206 N. Gum  
Kennewick, WA - CFN – 601 N. Kellogg  
Moxee, WA - CFN – 7540 Postma Rd  
Pasco, WA - CFN – 2502 N. 4th  
Pasco, WA - CFN – 919 E. Ainsworth Ave.  
Prosser, WA - CFN – Stacy Ave and 9th Street  
Quincy, WA - CFN & Bulk Plant – 9 Central Ave N  
Richland, WA - CFN – 917 Aaron Dr.  
Royal City, WA - CFN – 109 Royal Ave NW  
Sprague, WA - CFN – 401 S Colfax St  
Sunnyside, WA - CFN – 111 South Hill Road  
Warden, WA - CFN – 510 West 1st Street  
Wenatchee, WA - CFN & Bulk Plant – 3 Chehalis St  
Wenatchee, WA - CFN - 2732 Euclid Ave – Hwy 97 and Euclid Ave  
Yakima, WA - CFN – 904 S. Third Street  
Yakima, WA - CFN – 1602 Rudkin Road  
Yakima, WA - CFN – 1520 River RD

Hermiston, OR - CFN – 55 West Elm St.  
Hermiston, OR - CFN – 78133 Hwy 207

### **Blend #3:**

-10 cloud point, -20 cold filter plug point, and -30 pour point. Winterized Diesel Fuel at the following locations will meet these specifications.

Bovill, ID - CFN – Highway 3  
Cottonwood, ID - CFN – Nuxoll Shell  
Deary, ID - CFN – 300 2<sup>nd</sup> Ave  
Kendrick, ID - CFN – 1<sup>st</sup> & Railroad  
Nezperce, ID - CFN – 610 9<sup>th</sup> Ave  
Orofino, ID - CFN – 751 Riverside  
Sandpoint, ID - Bulk plant & CFN – 1520 Baldy Park Road  
Pinehurst, ID - Dyna Mart – 111 S Division  
Ponderay, ID - Ponderay Pitstop – 31076 Highway 200

Bridgeport, WA - CFN – 1820 N. Foster Creek Ave  
Curlew, WA - CFN – 2541 Hwy 21 N.  
Mansfield, WA - CFN Airport Rd.  
Okanogan, WA - CFN – 327 N. Van Duyn  
Omak, WA - CFN – 116 Omak Ave  
Pateros, WA - CFN & Bulk Plant – 411 Industrial Way  
Pateros, WA - Pateros Chevron Super Stop & CFN – 245 Lakeside Dr  
Pomeroy, WA - CFN – 1820 Main St  
Republic, WA - CFN & Chevron Station – 30267 E Hwy 20  
Tonasket, WA - CFN & Bulk Plant – 107 W 4<sup>th</sup>