



BIODIESEL COLD WEATHER OPERABILITY

Summary: Biodiesel Standard Primed for Cold Weather Use

We are not aware of any cold weather operability issues that have occurred since biodiesel's ASTM specification was optimized for cold weather performance in 2011. This includes other cold weather jurisdictions that require biodiesel year-round such as Minnesota (5%), Pennsylvania (2%), Rhode Island (2%), and New York City (5-20%).

The cold flow characteristics of petroleum diesel and biodiesel can vary considerably. Cold flow parameters of B5 blends (5% biodiesel, 95% petroleum) can vary from -35°F to +11°F. For this reason, suppliers provide cold flow performance information on product transfer documents and buyers request specific cold flow properties, which essentially guarantees the fuel will work properly down to certain temperature. Depending on the performance characteristics of the petroleum diesel and biodiesel, fuel marketers may choose to additize the finished fuel to realize further improvements.

Technical Data

According to testing performed at the Cleveland Technical Center, the differences in cold flow between a 5% biodiesel blend and 100% petroleum are less than half of one degree Fahrenheit, which is part of the reason biodiesel blends up to 5.5% are now included in the ASTM diesel fuel specification, D975. Biodiesel blends up to B5 are considered D975 diesel fuel for purposes of cold flow, materials compatibility, and engine operability.

Cold Weather B20 Fleet Users

- **Yellowstone National Park** has been using B20 year-round since 1996. "Our diesel vehicles run great on B20 all year," said Jim Evanoff, Yellowstone's Environmental Manager. "Even during our coldest days, the vehicles have started fine."
- **Glacier National Park** has been using biodiesel since 2001, including in the winter time. "We've had no issues related to performance or reliability," said park fleet manager Lou Summerfield. "We use B20 in dangerous conditions where there is no tolerance for failure."
- **Colorado Springs** has been using B20 in its fleet since 2001, and currently uses the blend year-round. Today, more than 2,400 city vehicles and equipment run on biodiesel.
- **New York City** has used B20 during the winter time in most vehicles since 2009. Emergency vehicles—police, fire, and ambulances—all use B5.
- **Denver** has used B20 year-round in its entire fleet since 2004.
- **Brooklyn Park, MN** has used a B20 blend year-round in its fleet of more than 100 vehicles since 1999, including fire trucks and police vehicles.
- **Harvard University** in Cambridge Massachusetts has used B20 year-round in its fleet of 68 diesel vehicles since 2006.
- **The University of Michigan** uses B20 year-round in all its vehicles.
- **Grand Teton National Park** has used B20 in its vehicles year-round since 2013.
- **Jackson Hole Ski Resort** uses B20 in its vehicles and equipment year-round.

Comparison of Eastern Oregon and Fleet Users Listed in °F¹

Location	Average Low Temperature (December)
Eastern Oregon	6.8°F
Minnesota	-22°F
Montana	-11°F
Michigan	-4.0°F
Wyoming	-0.4°F
Colorado	6.8°F
New York	6.8°F
Massachusetts	3.2°F

Business Issues

Investments in biodiesel production and distribution have been based on the current policy landscape, which includes a year-round market for the product. Moving to a policy structure that significantly decreases the market during one-third of the year would substantially harm those who have invested in and are employed by the industry. Partially stranded assets and reduced employment would result.

In addition, passage of SB163 or SB164 would send a clear signal to the investment community that Oregon state government is not serious about developing a homegrown advanced biofuels industry—the wrong message as the state gears up for implementation of the Clean Fuels Standard.

Advanced biofuels growth and development is based on the level of confidence investors have in government policies. Backtracking from promises that have been made will send capital to other states, such as California, which are moving forward aggressively.

¹ Source: ASTM International.