



## WHAT IS COLD FLOW?

All liquid fuels – including both petroleum diesel and biodiesel – must be managed to ensure proper cold weather performance. The temperatures at which issues occur are represented in terms of “Cold Flow” properties, such as “Cloud Point.”



## WHAT IS CLOUD POINT?

Cloud Point is the temperature at which small solid crystals are first observed as a fuel is cooled. Once these crystals become large enough, they can cause temporary issues in storage tanks and engines.



## DON'T BELIEVE THE HYPE!

There's a lot of misinformation out there about biodiesel's cold flow properties, specifically the cloud point of different blend levels. Here are some cold, hard facts...



**B5 = 2.3° F**

A fuel containing 5% biodiesel (or B5) has a cloud point just 2.3° higher than that of 100% petroleum diesel.



**B20 = 3° - 10° F**

A fuel containing 20% biodiesel (or B20) has a cloud point 3°-10° higher than that of 100% petroleum diesel.

## BIODIESEL “TREATMENTS” HELP ENSURE PERFORMANCE



Just like petroleum diesel, biodiesel blends are treated with additives during the winter to enhance their cold weather capabilities and prevent performance issues.

## NYC USES B20 YEAR-ROUND

New York City requires city vehicles to use B20 biodiesel from April through November, and B5 from December through March. Biodiesel has performed so successfully that many agencies use B20 all year long. Even NYC snowplows run on B20 in the winter! In fact, NYC vehicles used more than 2 million gallons of B20 during the winters of 2017 and 2018 without any cold weather issues.



## WHAT IS **BIOHEAT**?

Biodiesel isn't just for vehicles. It is also blended with home heating oil to create Bioheat®. Bioheat is the economical, environmentally sustainable choice for millions of homeowners in the Northeast, one of our nation's coldest regions.

## B20 BIOHEAT IS 100% WINTER COMPATIBLE



Field surveys from heating oil dealers and industry leaders report that Bioheat blends up to B20 perform as expected in heating systems, with no biodiesel related technical difficulties and no need for equipment modifications. Furthermore, according to that survey, more than 35,000 homes in the Northeast use B10-B40, and nearly 400 use B80-B100.

### ABOUT BIODIESEL AND BIOHEAT

- Made from plant-based oils, used cooking oils, and animal fats
- Clean-burning
- Can be used in any oil equipment without modification
- Commercially available nationwide
- Today's solution for heavy-duty trucking, emergency vehicles, bus fleets, and farm equipment

Sources: Cold Flow Properties of Biodiesel and Biodiesel Blends—A Review of Data, Kenneth Bickel, University of Minnesota Center for Diesel Research, December 3, 2004 | DCAS: Use of Winter Biodiesel in City Fleet Trucks, NYC Department of Citywide Administrative Services, September 4, 2018 | B20 to B100 Blends as Heating Fuels, Dr. Thomas A. Butcher, Brookhaven National Laboratory, November, 2018.