

PATRIOT B20 BIODIESEL

Alternative Fuel Solutions



Fleetline Patriot B20 Biodiesel is an earth-friendly

alternative fuel that provides good fuel economy and power output with several health and environmental advantages.

Fleetline Patriot B20 Biodiesel is a blend of 20% Biodiesel and 80% of our premium diesel fuel. Our basestocks are refined from selected light crudes, hydrotreated and then carefully blended* to produce a premium on- and off-road fuel.

Biodiesel is blended with premium diesel in different proportions to reduce, correct and control exhaust emissions.

Biodiesel offers outstanding lubricity. Blend ratios as low as 1% can provide up to 30% more lubricity over conventional diesel fuel.

This quality alternative fuel:

- ✓ Cuts exhaust emissions and reduces black smoke and odor
- ✓ Runs in existing, unmodified diesel engines
- ✓ Dramatically increases fuel lubricity
- ✓ Has a higher flash point than petroleum diesel making Biodiesel safer to handle
- ✓ Has higher cetane than petroleum diesel
- ✓ Is biodegradable and non-toxic to plants, animals and humans

* Adjusted with additives and kerosene blending for winter operation.

Fleetline Patriot B20 Biodiesel is recommended for use in all diesel engines, trucks, buses, marine, and stationary diesel engine applications requiring a No. 2 diesel fuel – with increased fuel lubricity and Biodiesel’s environmental benefits.

Fleetline Patriot B20 Biodiesel meets or exceeds the following requirements:

- ✓ Meets ASTM PS121 Specifications
- ✓ Recognized as alternative fuel by the Environmental Protection Agency (EPA)
- ✓ Meets clean diesel standards set by the California Air Resources Board (CARB)
- ✓ Pure Biodiesel (B100) is a recognized alternative fuel by the Department of Energy (DOE) and the Department of Transportation (USDOT)

Fleetline Patriot B20 Biodiesel (a blend of 20% Biodiesel and 80% of our premium diesel fuel) meets OEM approval from:

- ✓ International
- ✓ Caterpillar
- ✓ Cummins
- ✓ Detroit Diesel
- ✓ John Deere
- ✓ Stanadyne
- ✓ . . . and many more.

PACKAGING:



Part No. B20



Part No. FLE 7771



Part No. FLE 7772

Superior Performance

PATRIOT B20 BIODIESEL

Alternative Fuel Solutions

In December 1998, The American Society for Testing and Materials specified Provisional Specification 121 for Biodiesel. ASTM is the standard-setting organization for fuels and additives in the United States.

PS121 BIODIESEL B20 SPECIFICATIONS

PROPERTY	ASTM METHOD	LIMITS	UNITS
Flash Point (Pensky-Martens), °C	D93	100.0 min.	degrees °C
Water & Sediment	D2709	0.050 max.	% volume
Kinematic Viscosity at 40°C	D445	1.9-6.0	mm ² /sec.
Sulfated Ash	D874	0.020 max.	% mass
Sulfur	D5453	0.0015 max.	% mass
Copper Strip, Corrosion	D130	No. 3 max.	
Cetane Number	D613	46 min.	
Cloud Point	D2500	Report to Customer	degrees °C
Carbon Residue, 100% Sample	D4530	0.050 max.	% mass
Carbon Residue, Ramsbottom	D524	0.090 max.	% mass
Acid Number	D664	0.80 max.	mg KOH/gm
Free Glycerin	D6584	0.020 max.	% mass
Total Glycerin	D6584	0.24 max.	% mass

While ASTM PS 121 specifications measure finished quality, the Cloudpoint can vary tremendously.

Most truck engine manufacturers recommend blend ratios of no more than 20% (B20).

Engine manufacturers may have additional statements or limitations concerning biodiesel use in their engines.

Contact your Burke representative for more details.

Environmental Advantages:

When burned in standard diesel engines, biodiesel has significant health and environmental benefits.

Pure Biodiesel poses no health threat and the fuel is non-toxic, completely biodegradable, and contains no sulfur or carcinogenic compounds.

Biodiesel Exposure Benefits:

- No pronounced toxicity at any exposure level
- No mortality or clinical abnormality
- No neurotoxins or internal pathologic response
- No adverse effect on fertility and reproductive systems
- Decreased mutagenic activity in living organisms

Tailpipe Emission Changes using Biodiesel B20

Hydrocarbons	-11.0%
Carbon Monoxide	-12.6%
Particulate Matter	-18.0%
Nitrogen Oxides	+1.2%
Air Toxics	-12.0% to -20.0%
Mutagenicity	-20.0%
Carbon Dioxide*	-15.7%

Average of data from 14 EPA FTP Heavy Duty Cycle tests, variety of stock engines.

* Life Cycle emissions

* Adjusted with additives and kerosene blending for winter operation



We can also custom blend fuel to meet customer's specifications