

139A SOYSHIELD® ALL SEASON

SoyShield® All Season is a concentrated multi-functional premium diesel fuel additive that is specially formulated for use in all types of diesel including ultra low sulfur diesel fuel, low sulfur diesel fuel and biodiesel blends. SoyShield® All Season provides clean-up and keep clean performance, as shown by the Peugeot DW-10 Injector Depositing Test, throughout the entire fuel system.

SoyShield® All Season contains a unique blend of methyl soyate bio-diesel derived from soybean oil and a highly concentrated multi-functional additive package which provide the following performance benefits when used at the recommended treat ratio:

PERFORMANCE

- Boosts the fuel's cetane number up to 4 points
- Faster warm-up and easier cold weather starting
- Increased fuel economy up to 5%.
- Reduced emissions, exhaust smoke, particulates and black smoke.
- Flow improver

DEPOSIT PROTECTION

- Clean-up & Keep clean performance proven in the Peugeot DW-10 Injector Depositing Test
- Dispersion of insoluble gums and varnish present in low quality fuels.
- Modification of existing injector deposits, allowing for their removal and safe passage into the combustion chamber where they can be burned.
- Helps control the acidic by-products produced by combustion.

WEAR PROTECTION

- Increased fuel lubricity. (Soy based biodiesel has 3X the lubricity of diesel fuel)
- Excellent anti-wear protection for the injectors and the fuel pump.
- Lubrication of the upper cylinders, fuel pumps and injectors.
- Rust and corrosion protection to the entire fuel system

STORAGE AND OTHER BENEFITS

- Supports the use of a renewable farmer-supplied fuel source.
- Increased fuel thermal stability to resist thermal oxidation.
- Inhibition of oxidation during storage which extends storage stability.
- Lubrication of the upper cylinders, fuel pumps and injectors.
- Rust and corrosion protection to the entire fuel system.
- Dispersion of water present in diesel fuel to prevent fuel icing and other water concerns

Better Protection from Water Contamination

HydroShield is a non-alcohol jet fuel deicer/water dispersant which eliminates the problems associated with entrained and/or dissolved water present in the fuel by dispersing the water into tiny droplets. These tiny droplets are suspended in the fuel so they can be carried with the fuel in controlled amounts through the fuel filters, fuel lines, and into the combustion chamber to be burned with the fuel. Because the remaining water is dispersed and suspended in the fuel, SoyShield® All Season prevents the formation of stable fuel-water emulsions.

Improved Low Temperature Operability

SoyShield® All Season contains a proprietary wax crystal modifier, cold flow improver; heavy wax modifier polymeric type additive system that when added to the diesel fuel before the fuel has reached its cloud point helps to prevent the formation of wax crystals. This proprietary polymeric additive system modifies the individual wax crystals by encapsulating and dispersing them as they are formed. This not only drastically reduces the size of the wax crystals by preventing the growth of larger wax crystals through adhesion to each other; but, also allows the wax crystals to flow through the fuel filters and lines and into the combustion chamber with the fuel.

****Improvement in low temperature operability is dependent upon the refining process used to make the ultra-low sulfur diesel fuel and its response to the additive.***

Increased Lubricity Protection with SynShield®

Diesel engine designs are employing the use of higher fuel injection pressures, hotter fuel return temperatures, higher operating temperatures and complex engine geometry to control emissions. All of these factors result in increased fuel system wear and can shorten engine life. SynShield® technology increases lubricity and provides:

- Non-acidic, full synthetic ester chemistry
- Reduced pump and injector wear
- Non-metallic, ashless, phosphorus free

Treatment Ratio

One gallon of SoyShield® All Season to every 500 gallons diesel fuel.

One 16-ounce can of SoyShield® All Season to every 50 gallons of diesel fuel

When treating Ultra Low Sulfur Diesel Fuels additional treatment may be necessary for improved winter operability. Treatment ratios may need to be doubled or tripled.

NOTE: Store product above 20°F.

SoyShield® All Season is registered and meets the US EPA requirements for blending into low sulfur and ultra-low sulfur diesel fuels. When used at the recommended treatment ratio SoyShield® All Season will not have any measurable effect on the cetane on the cetane index or aromatic content and sulfur content of the diesel fuel.

This diesel fuel additive complies with the federal low sulfur content requirements for use in diesel motor vehicles and non-road engines.

This diesel fuel additive is compatible and approved for use with diesel fuels that meet ASTM D975 and biodiesel that meets ASTM D6751 and biodiesel that meets EN 14214.

TYPICAL PROPERTIES

Specific Gravity @ 60°F	0.900-0.920
Flash Point °F/°C PMCC (ASTM D-93)	158°/70°
Pour Point °F/°C (ASTM D-97)	-9°/-22.8°
Copper Strip Corrosion Test (ASTM D-130)	1a