

# Gen49D

An all-season diesel fuel treatment that boosts cetane, prevents winter gelling, contains lubricity agents, fuel stabilizers and detergents to keep fuel systems running smoothly.

Gen49D is designed to protect critical fuel system components while improving performance when using ULSD #2 or BioDIESEL blends (B5, B20). It meets or surpasses all the regulatory criteria set forth by OEM's and legislative groups.

Gen49D provides performance enhancements to diesel fuel to help meet the demanding needs of specific applications that require additional additives as recommended by the OEM.

**Gen49D:** To be continuously or batch blended into diesel fuel as a concentrate or as a stock solution. In bulk storage tanks, mix enough Gen49D to treat the entire fill amount. Use AccuPOUR or similar measuring device to ensure accurate treat ratio-1L of Gen49D treats 1250L of diesel fuel.

Fuel economy improvements are achieved through the use of cetane improvers and maintaining the cleanliness of fuel system with detergents and synthetic lubricity agents which keeps engines running at peak performance.

Base fuel quality does not always meet OEM fuel requirements. Consult OEM fuel specifications for recommendations about when equipment requires the use of Gen49D.

**EPA 40 CFR 79.23 194620003**

**PART # 3301-750-4 (750ml x 4)**

**3301-20-1 (20L Pail)**

**3301-205-1 (205L Drum)**

North American diesel fuels are required to meet ASTM D 975 standards for minimum performance. This standard is recognized and met by most major fuel suppliers. OEM's in many cases provide their own minimum fuel specifications which outline the performance requirements of specific engines or operating conditions relative to the ASTM D 975. In some cases additional additives are required to meet these OEM specifications. Use of Gen49D will raise fuel quality to meet or exceed OEM requirements in most applications.

Gen49D is intended for use in all engine types requiring diesel fuel. To be used as a regular treatment where fuel lubricity, cetane number, cold weather operation or detergency requires improved performance. Highly recommended when using bioDIESEL blends of 5% (B5) or greater.

**Cetane Improvement:** High cetane number fuels ignite earlier in the compression stroke and burn more uniformly. Gen49D shortens ignition delay by 2-3 points resulting in improved combustion, increased fuel economy and decreased vehicle emissions.

**Cold Flow Enhancers:** Proprietary cold flow enhancers ensure exceptional starting efficiency at sub-zero temperatures. Typically improves cold temperature operability by up to 15°C (winter fuel waxing prevented to below -45°C).

**Rust and Corrosion Prevention:** Highly effective inhibitors prevent the formation of rust and corrosion in the fuel system when compared to neat ULSD #2.

**Stability Enhancers:** Helps to prevent issues related to long term storage. Stabilizes fuel and helps maintain fuel quality over time. Enhances oxidative and thermal stability; aids color stability and minimizes fuel filter blocking.

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**Lubricity Enhancement:** The High Frequency Reciprocating Rig Test (HFRR) measures fuel wear and friction as a part of the ASTM D 975 fuel standard. The minimum performance standard is 520 microns. Using Gen49D reduces wear to 279 microns, removing severe stresses from the top end of the combustion chamber, fuel injectors, intake and exhaust valves, and piston rings. Lubricity enhancements can also increase fuel pump life and prevent damage to fuel delivery systems.

**Increased detergency:** Minimizes valve, injector and combustion chamber deposits keeping fuel delivery system clean and improving fuel atomization.

**Guidance on Health, Safety, Storage and Handling available on the Safety Data Sheet** DO NOT HEAT. Self-sustaining exothermic decomposition of cetane improver begins above 100°C. Risk of explosion if heated under confinement.

## DESIGNED FOR PERFORMANCE

- Provides thermal and oxidative stability.
- Improves fuel economy.
- Maintains injector and fuel filter life.
- Reduces NOx emissions and particulate matter.
- Rust and corrosion protection.
- Reduces costs of maintenance and downtime.
- Contains stability additive to prevent the formation of particulates from stressed fuel.
- Compatible with high pressure fuel injection systems and exhaust gas recirculation (EGR).

<u>TYPICAL PROPERTIES</u>	<u>ASTM METHOD</u>	<u>Gen49D</u>
Appearance		Clear, Amber, Liquid
Colour	D 1500	3.5
Viscosity @ 40°C (cSt)	D 455	5.8
Density @ 20°C (g/ml)	D 941	0.939
Pour Point (°C)	D 97	-33
Flash Point COC (°C)	D 92	66
Fire Point COC (°C)	D 92	72
Copper Strip Corrosion	D 130	1A

<u>PERFORMANCE TESTING</u>	<u>ASTM METHOD</u>	<u>ULSD #2</u>	<u>+800PPM Gen49D</u>
BOCLE Fuel Lubricity (mm)	D 5001	0.615	0.475
HFRR Fuel Lubricity (mm)	D 6079	0.573	0.279
Rust Prevention (% surface rust)	D 665	50	0
Pour Point (°C)	D 97	-21	-34