



ClearKill

INDUSTRIAL MICROBIOCIDES AND PRESERVATIVE FOR USE IN DIESEL AND BIODIESEL BLEND FUELS

- Lasting protection against microbial material degradation
- Effective against bacteria, mold and yeast, including sulfate-reducing bacteria
- Sulfur-free (will not raise ULSD sulfur levels)
- Fully soluble in both diesel and water
- Protects against corrosion, including microbially-influenced corrosion
- EPA-registered as a biocide and approved for use as a fuel additive

ClearKill provides highly effective, broad spectrum microorganism control in diesel fuels and biodiesel blends used in a wide range of applications. **ClearKill** is approved for use in closed diesel fuel systems such as diesel fuel storage tanks. **ClearKill** is also approved for use in vehicles (cars and trucks), marine and freshwater boats.

WHO SHOULD USE ClearKill

If you store and use petroleum diesel or biodiesel blends and need to protect fuel from the destructive effects of fuel-borne microbes, especially in low-turn fuels where sulfur levels are a concern, **ClearKill** is what you need.

IDEAL USERS AND USES OF THIS PRODUCT WILL INCLUDE:

- Anyone storing and using petroleum diesel fuels and biodiesel blends.
- Mission critical diesel fuel users, including hospitals & healthcare facilities, utilities, emergency generators, and others.
- Diesel fuel distributors needing to prevent transmission of fuel-borne microbial contamination to their customers.
- Hospital & healthcare administrators and operators who must control microbial contamination while staying within strict sulfur limits for their fuel.
- Stored diesel fuel users with low turnover fuel who may be concerned about rising sulfur levels.
- Stored diesel fuel users in high-moisture environments, including marine users.
- Diesel fuel users needing microbiological control in cold weather regions.
- Those who need both microbial control and protection against microbial-influenced corrosion in their fuel storage tanks and systems.

WHAT ClearKill DOES FOR YOU

- **ClearKill** protects stored diesel fuel quality by killing all common fuel microbes, including bacteria, fungi and algae.
- **ClearKill** is fully soluble in both fuel and water and partitions into both the fuel and water phases for maximum treatment activity and optimal effectiveness at reducing microbial contamination in both areas.
- **ClearKill** will not increase the sulfur content of ULSD fuels, an important consideration for low-turn diesel fuel regulated for sulfur content.
- **ClearKill** is optimal for applications in cold regions because it contains negligible water (<1%), has low viscosity, very low pour point of -39 deg C, and is active even at low temperatures.

RECOMMENDED TREAT RATES

ClearKill is recommended for use at 50 ppm - 1000 ppm depending on type of usage and/or level of contamination.

Type of Usage	Recommended Dosage - PPM	Recommended Dosage - Large Containers	Recommended Dosage - Small Containers
Preventative/ Prophylactic Treatment	50 - 200 ppm	7 - 26 oz per 1000 gal 0.05 - 0.20 L per 1000 L 1:5000 - 1:20000	1 to 3 oz per 100 gal
Decontamination of Contaminated Diesel Fuel	200 - 500 ppm	26 - 64 oz per 1000 gal 0.20 - 0.50 L per 1000 L 1:2000 - 1:5000	3 to 6 oz per 100 gal
Shock Dosing for Heavily Contaminated Systems	500 - 1000 ppm	64 - 1 gal per 1000 gal 0.5 L - 1 L per 1000 L 1:1000 - 1:2000	6 to 13 oz per 100 gal

APPLICATION RECOMMENDATIONS

For best performance, provide good distribution of **ClearKill** in the fuel by mixing or adding during tank filling.

In cases of heavy fouling, the best performance is achieved by first cleaning the tank prior to addition of **ClearKill**.

When treating partially filled systems prior to addition of new fuel for mixing, treat for the entire final volume of fuel to be present.

For decontamination of fuel and fuel-system walls, it is recommended that **ClearKill** remain in contact with the treated fuel system for a minimum of four hours.

As with all preservatives, under-dosing must be avoided. Should under-dosing occur on a regular basis there is the possibility that some selected microorganisms may not be killed by the preservative. In those circumstances, as most other organisms have been killed, the selected microorganisms will find ideal growth conditions.

Use biocides safely. Always read the label and product information before use.

ENVIRONMENTAL INFORMATION

ClearKill is completely biodegradable, does not contain organic chlorine compounds, and will not interfere with the operation of municipal sewage treatment plants. **ClearKill** in wastewater has no effect on AOX value. **ClearKill** is halogen-free and contains no organic solvents.

COMPATIBILITY WITH MATERIALS

ClearKill causes no corrosion of steel, stainless steels, aluminum or zinc. Do not use more than 50 ppm of **ClearKill** in fuel systems containing parts made out of copper and copper alloys. **ClearKill** does not attack polyethylene (PE) or polypropylene (PP) and shows no adverse interactions with other plastics at the recommended use concentration.

TRANSPORT, HANDLING AND STORAGE GUIDELINES

ClearKill is a UN2735, Class 8, PG III chemical.

When stored as recommended, **ClearKill** has a product shelf-life of 36 months.

Protect from heat and direct sunlight. Store **ClearKill** at room temperature in the original container.

PRODUCT CHEMISTRY

Active Ingredients

3,3'-Methylenebis[5-methyloxazolidine]	99.09%
Inert Ingredients	0.91%
Total	100%

TYPICAL PRODUCT CHARACTERISTICS

Appearance	Clear, nearly clear or slightly yellow
Form	Liquid
Odor	Amine-like
Density (20 deg C)	1.049 - 1.069 g/mL
Refractive Index (20 deg C)	1.469 - 1.479
Flashpoint	> 100 deg C
Viscosity (DIN 53 211)	Flow time < 15 sec (20 deg C)
VOC Content	100%

SIZE AVAILABILITY

ClearKill is available in 16 oz, 32 oz, 1 gallon, 2.5 gallon, 55 gallon and 265 gallon product sizes.