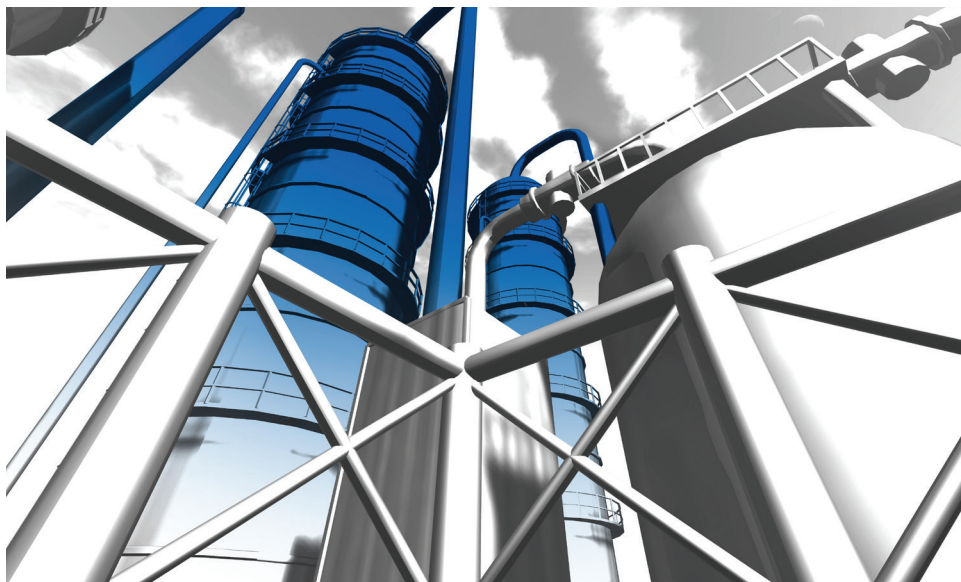


FUELS

BUG OUT[®] Sticks

Fuel Biocide



Effectively Treats Gasolines, Distillate Fuels, and Crude Oils

 **Afton**[®]
CHEMICAL
Passion for Solutions[™]

Application

Uncontrolled microbial contamination of fuel storage tanks can lead to costly problems:

- Tank leakage caused by microbially induced corrosion (MIC)
- Premature filter plugging from microbes and microbial slimes
- Degraded fuel performance from:
 - Microbes using fuel molecules as food (decreasing BTU value, octane value, and Reid vapor pressure)
 - Microbially produced acids increasing fuel corrosivity
 - Microbially produced surfactants degrading water separability properties

Microbes typically live at the water/fuel interface, where they feed on the organic material in the fuel while living in the water. Water can enter a fuel storage tank from a number of sources:

- Daily variations in temperature and humidity levels can cause water to condense on tank surfaces.
- Trace levels of water in the incoming fuel can settle and accumulate in the tank bottom over time

BUGOUT® Sticks have been designed to effectively disinfect water that collects at the bottom of fuel system tanks commonly used for gasoline, distillate fuel, and crude oil. BUGOUT® Sticks are most effective when used in tanks that have a continuous bottoms-water layer. The active ingredient in BUGOUT® Sticks is 100% water soluble. It dissolves and disperses completely throughout the water layer at the bottom of the tank providing excellent disinfection and preventing microbes from causing damage to either the tank or the fuel stored in the tank. Because BUGOUT® does not dissolve or disperse in the fuel, there is no worry about having your antimicrobial treatment change any fuel properties.

Key Performance Benefits

- Eliminates bacteria and fungi from infected bottom water in fuel storage tanks
- Helps protect stored fuel against microbial contamination for extended periods

Recommended Dosage

Microbial contamination in bottoms-water can be controlled effectively with 100 mg/L of the active ingredient in BUGOUT® Sticks. The following table provides guidance on the number of BUGOUT® Sticks to use for up to 2,000 L (528 gal) bottoms-water.

Dosage # Sticks	Water present in fuel tank	
	Liters	Gallons
1	<1,000	<264
2	2,000	528

Typical Characteristics

Appearance	White opaque sticks
Density, lbs/gal.	8.14

Handling Information

Max Handling Temp: Please inquire
Shelf Life: 24 months

Do not use copper, aluminum, or alloys in the feed system. Avoid prolonged contact with PVC, FRP (Fiber Reinforced Polymer), Neoprene, Buna N and Hypalon. Viton or Kalrez are recommended elastomers.

Contact Information

Email: Afton.customerservice@aftonchemical.com
North America Fuels: 1-800-653-4108
Fax: 1-804-788-5182

*Neoprene is a registered trademark of E.I. DuPont. Viton and Kalrez are registered trademarks of DuPont Dow Elastomers.