

# BUG OUT Sticks

## Description

BUG OUT Sticks qualifies for the USA EPA 40CFR80.591A certification, indicating the product contains < 15 ppm and is compatible with ultra-low-sulfur diesel.

BUG OUT Sticks are an economical, EPA-registered, multicomponent biocide for use in fuel tanks of farm, marine, fleet, and mining equipment, as well as gasoline<sup>1</sup>, diesel, biodiesel blends, and heating oil storage tanks. This biocide kills bacteria and fungi present in water bottoms and fuel systems at a very modest cost.

Use the BUG EYE Test kit to determine if bacteria are a problem. Drain water bottom and if the fuel supply tests positive for microbial activity, shock with dual-phase BioGuard. If problem persists, use BUG OUT Sticks for longer term application, up to 3 months. Allow a treated tank to remain out of service for at least 4 hours (ideally 3-5 days). Filter may need to be replaced.

## Features and Benefits

BUG OUT Sticks are designed to:

- Provide dual-phase effectiveness, killing microbes in both the fuel and water phase.
- Protect from and eliminate bacteria and fungi from infected fuels.
- Protect fuels from a broad spectrum of both bacteria and slime-producing fungi.
- Kill microbes within 4 to 72 hours, depending on the severity of infestation.
- Help prevent sludge formation, filter plugging, and corrosion due to microbial activity, reducing downtime and maintenance costs.
- The best way to limit microbial activity is to regularly monitor tanks and drain water bottoms. Typical situations for use might be long term storage (e.g., hospital back-up fuel storage tanks, power generation plant fuel storage tanks, seasonal fuel storage tanks) or places of chronic microbial problems (e.g., storage tanks retaining water bottoms, premature plugging of filters, or consistently testing positive for microbial activity).

<sup>1</sup> BUG OUT Sticks are not formulated for aviation gasoline or jet fuel

## Typical Properties

|                     |                                    |
|---------------------|------------------------------------|
| Physical state      | Solid (crystalline)                |
| Color               | Off-white                          |
| pH                  | 6.3                                |
| Melting Point       | 70°C (158°F)                       |
| Flash Point         | >93.3°C (>200°F)                   |
| Vapor Pressure      | <0.013 kPa [room temp]             |
| Density             | 1.1 g/cm <sup>3</sup> [68°F(20°C)] |
| Solubility in water | 280 g/l                            |

## Recommended Usage

Treat per the table below:

| Dosage   | Maintenance Dosage (Gal. Fuel Treated) | Kill Dosage* (Gal. fuel Treated) |
|----------|--|----------------------------------|
| ¼ Stick  | 2,500                                  | 1,250                            |
| ½ Stick  | 5,000                                  | 2,500                            |
| 1 Stick  | 10,000                                 | 5,000                            |
| 2 Sticks | 20,000                                 | 10,000                           |

\*Use this dosage if a microorganism problem exists.

\*\*Each BUG OUT Stick is individually wrapped and does not need to be unwrapped prior to be placed in fuel.

## Storage and Handling

Use care when handling BUG OUT Sticks. Always wear proper eye and skin protection. Store in original container protected from direct sunlight in a dry, cool, and well-ventilated area. Keep container tightly sealed until ready for use.

## Shelf Life

Approximately 3 years

## Product Availability

2 x 5 Sticks

