

# HUM-BUG<sup>®</sup>

## DETECTOR KIT

### USAGE INSTRUCTIONS

1. Draw a fuel sample from the bottom of your tank.
2. Peel back the center seal of the metal cap on the test bottle. (Be careful not to touch the rubber cap)
3. Insert the syringe into fuel sample and draw at least one c.c. out of the sample. Push in the plunger to exactly one c.c. and expel any air bubbles.
4. Insert the syringe into the test bottle and inject the fuel sample.
5. Remove the syringe, replace needle guard and dispose of the syringe according to local/state/federal guidelines.
6. Shake the test bottle vigorously and return to the cardboard tube, place the caps back on the tube and put the tube in a dark room/cabinet for 24-48 hours.
7. If active microbial growth is present, the bottom phase of the test bottle should turn pink or red within the 24-48 hour period.
8. If a test returns positive, we recommend a shock treatment with **Biobor<sup>®</sup>JF** at 270 ppm to kill any active microbial growth.

**\*\*\*Note:** If a fuel sample has higher than normal sulfur content the top phase of the test bottle may turn a light pink/red color. This should not be mistaken for microbial contamination.

# HUM-BUG DETECTOR® KIT

## Testing for Microorganisms

Although there are over 250 types of bacteria and fungi that can exist in fuels and oils, there are only a few dozen that are HumBugs. HumBugs are Hydrocarbon Utilizing Microorganisms which live in the interface between fuel or fuel oils and water bottoms, they reside in the water, feeding on the fuel or oil. Of the hundreds of varieties of bacteria and fungi, the HumBugs are the only harmful ones to your fuel, and the equipment which used that fuel. They not only are harmful because they plug filters, and lines, but their waste by-products have an acid content. This can aid in the corrosion of fuel tanks, distortion of rubber hoses and seals, increased wear on equipment fuel pumps and finally, added deposits on engine fuel injectors. Since even the smallest contamination can cause these severe problems, any level, no matter how small, should be treated.

**The HumBug Detector® Kit** has been specifically designed to detect only those microorganisms which are harmful to your tanks. The detection results are either positive or negative for the existence of these bugs, which tells the user if he needs to treat the fuel with a biocide or not. Early detection of an infestation and treatment will limit the size of the growth problem. **Biobor® JF** is the industry recommended biocide to use.



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