How do I add bioaugmentation products to help degrade oils and grease?

Lift Stations, Aeration basins and Digestors may have grease. Digestors commonly end up with build-ups of grease due to solids and floating grease from the primary being sent to the digestor. Grease is one waste that the sewer system cannot handle and therefore needs to be kept out of the system, but most often is not.

An additional concern is that since the government raised the temperature required by restaurants and food establishments at the dish machines from 180° F to ~210° F, grease traps are not working as designed and grease that used to be trapped onsite is now washing through the lines until the temperature of the water cools down and then hardens later on.

This usually happens somewhere in the lines or in the lift station. Biological additives are a safe, natural, environmental friendly way to help assist in the cleaning up of a lift station, but they are not miracle workers. There is a limit to what they can do, how they do it and when they will work. Bacteria can naturally degrade the fats, oils and grease, as well as any other organic materials that enter a lift station or pipe. They actually consume these as a food source, as opposed to traditional methods of surfactants, enzymes or chemicals that may have eliminated the grease in the lift station, but just transferred them down the pipe and eventually into the wastewater treatment plant and can cause upset conditions.

Biological products cannot in a realistic time degrade some of the solids such as plastics, floatables, etc. that wind up in the lift station or the treatment plant. Some of these eventually build up and must be physically removed.

Bacteria not only clean the lift stations if properly applied, they can help clean up the lines and can lighten the load at the treatment plant and reduce solids or help with BOD removal and TSS loading.

Again, it is all in the program addition; conditions such as flow, temperature and loading impact whether a program will impact just the lift station, the pipes or the treatment plant alone. It is always a time and numbers game in wastewater biodegradation. With bioaugmentation, you are assisting and supplementing the numbers of bacteria. Depending upon where you add the bacteria, especially the further upstream you add them, the more time you are allowing the bacteria to degrade the organics. Please let us know if you have issues with grease and oils.

Thanks, Tracy Finnegan – President
Sincerely, Bryan Cook – Bioengineering Specialist

wastewater@environmentalLeverage.com or bryandenlev@aol.com
MicroBlock™

**FOG / Odor Control & BOD / TSS Reduction**

**Product Bulletin**  
Problems with High Grease, Fats & Oils

**Application Sewer, Lift Stations & Wet Wells for FOG Control**

**DOSAGE RATE GUIDELINES**

<table>
<thead>
<tr>
<th>Dosage Rate</th>
<th>Days</th>
<th>Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 lb.</td>
<td>35-60</td>
<td>flows less than 50,000 gpd</td>
</tr>
<tr>
<td>5 lb.</td>
<td>45-75</td>
<td>flows 50,000 - 100,000 gpd</td>
</tr>
<tr>
<td>10 lb.</td>
<td>60-90</td>
<td>flows &gt;100,000 gpd</td>
</tr>
</tbody>
</table>

**MicroBlock™** is a solid, bacterial laden, slow release bio block for use in degrading organics. The naturally occurring bacteria contained in the block will reduce odor, sludge, fats, oils and grease buildup.

This bioaugmentation product is safe; naturally occurring bacteria are present in high numbers to handle difficult organic problems. The unique block will gradually dissolve over a 30-90 day period which allows for continuous treatment and degradation of waste. Biological products offer a more efficient alternative to chemicals. They actually degrade the grease and organics at the source. The MicroBlock™ is suspended below the water level and provides slow, continuous release for the bacteria.

**Product Advantages**

* Allows for 24 hour continuous treatment of waste, not just periodic dosage
* Greatly reduces labor time needed for dosage maintenance
* Reduces hydrogen sulfide & sludge buildup
  * Easy to use
  * Significantly reduces malodors
* Cost effective & reduces the need for pump-outs and dredging
* Breaks down fat & grease buildup (FOG)
* Eliminates need for metering pump - no initial or maintenance cost
* Eliminates need for personnel to dose other types of treatments daily or weekly
* Automates septic and grease trap maintenance program

**Applications of Use**

- Lift Stations
- Wet Wells
- Sump Pits
- Digesters
- Sludge Tanks
- Sewer Mains
- Pre-Treatment Laterals
- Grease Traps
- Aeration SBR's
- Lagoons
- Trickling Filters
- Drain Lines

**Degradates**

(FOG)

- Fats, Oils & Grease
- Starches
- Protein
- Malodors
- Animal Fat
- Organics
- Triglycerides
- Foaming
- Surfactants
- Soaps
- Reduces BOD

**Packaging of Product**

<table>
<thead>
<tr>
<th>Weight</th>
<th>Per Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 lb.</td>
<td>4</td>
</tr>
<tr>
<td>5 lb.</td>
<td>4</td>
</tr>
<tr>
<td>10 lb.</td>
<td>4</td>
</tr>
</tbody>
</table>

[Environmental Leverage has Lab Analysis Service Available]

Environmental Leverage® Inc.  
1454 Louis Bork Drive  
Batavia, IL 60510  
admin@environmentalLeverage.com  
630-906-9791 fax 630-906-9792  
www.EnvironmentalLeverage.com
MicroBlock™ bio solid gives round the clock waste degradation treatment with a simple, easy to use system. Simply suspend the MicroBlock™ into the treatment area, hanging the MicroBlock™ ½ the way into the lift station liquid, wet well, grease trap or pre-treatment site. The block will dissolve over a 30-90 day period, depending on size and flow rates in a typical lift stations or wet wells, providing optimal efficiency and treatment.

Typical Properties of Product
Appearance......................medium green
Fragrance............................mild-earthy
Form.................................block
pH.....................................7.8-8.5
Shelf-Life..........................2 years/u.o.c.
Flash Point..........................none

Performance Properties
Effective pH range.....................5.2 - 9.5
Effective Temperature Range...........40 - 120°F

Storage & Handling
Storage..............................Store in a cool, dry place. Do Not Freeze
Container..............................Keep box closed & blocks in plastic bag. Seal end of bag to keep blocks away from air flow.

Handling............................Wash hands thoroughly with warm, soapy water

Bacterial Count
MicroBlock™.......................4 Billion CFU’s per gram
Block Contents include...... 4 strains of Bacillus & Nutrient Package

*Ask about the impact of supplementing N and P.
MicroClear® 207
High Grease, FOG Control and BOD Reduction

Product Bulletin

Enzymatic Activity
Cellulase (CAU) ................................................................. Units/Gram: 150 Min.
Protease (Casein Digesting) ............................................... Units/Gram: 35,000 Min.
Amylase (Modified Wohlgemuth) ....................................... Units/Gram: 55,000-80,000
Lipase (USP) .................................................................

Application Instructions for Sewer & Lift Stations

<table>
<thead>
<tr>
<th>Flow Rate</th>
<th>Initial Dosage</th>
<th>Maintenance**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 25,000gpd</td>
<td>1lb. per week</td>
<td>½ lb. per week</td>
</tr>
<tr>
<td>Up to 50,000gpd</td>
<td>1lb. 2x week</td>
<td>1 lb. per week</td>
</tr>
<tr>
<td>Up to 100,000gpd</td>
<td>1lb. every other day</td>
<td>1 lb. 2x week</td>
</tr>
<tr>
<td>Up to 250,000gpd</td>
<td>1lb. per day</td>
<td>1 lb. 3x week</td>
</tr>
</tbody>
</table>

Product Advantages
Can be used in WW Treatment Systems & Liftstations to reduce BOD/TSS
Greatly reduces labor time
Enhances BOD/COD removal
Reduces H2S Production
Reduces sludge buildup
Cost effective/Easy to use
Changes biomass dynamics
No special equipment needed
Increases system efficiency
Breaks down fat & grease (FOG) buildup
Eliminates malodors at their source
Contains facultative anaerobes
Contains no chemicals
Degrades a wide range of complex organic compounds

Applications of Use
LIFT STATIONS
WET WELLS
SUMP PITS
AERATION BASINS
OXIDATION TANKS & DITCHES
RBC’S & SBR’s
CLARIFIERS
DIGESTERS
SLUDGE TANKS
SEWER MAINS
LATERALS
GREASE TRAPS
AERATION SBR’S
LAGOON’S
TRICKLING FILTERS
IMHOFF TANKS
DRAIN LINES

Packaging of Product
MicroClear® 207 comes in 1-lb. water soluble Bio-pouches.
Bulk or Smaller pouch packaging upon request.
Typical Properties of Product

Appearance............................light tan
Fragrance..............................mild-earthy
Form....................................powder
pH.......................................6.8-8.5
Shelf-Life............................2 years/u.o.c.
Flash Point............................none

Performance Properties

Effective pH range.....................5.2 - 9.5
Effective Temperature Range........35 - 130°F
Bacterial Enzyme Production......Protease, Lipase, Amylase, Urease, Cellulase

Storage & Handling

Storage.....................................Store in a cool, dry place. Do Not Freeze
Container...................................Keep lid closed on Plastic Pail. Do not store water soluble pouches out of plastic container.

Handling...............................Wash hands thoroughly with warm, soapy water

Bacterial Count

MicroClear® 207.............................>1x10⁹ (Billion per gram)