

BioPuck GT

An Enviro-Safe Solution for Kitchen Grease Traps

Disposes Greases, Fats, Proteins & Detergents

1-4 Pucks Per Month for Typical Grease Traps

Works in Water Temperature of 41° to 113°F

Remedy for Kitchen Grease Traps & Drains

All-Natural Product for Use in Traps & Pipes

Water Maze's BioPuck GT is an easy and effective way to dramatically reduce grease, oils, and fats typically found in a kitchen or food processing facility.

Because kitchen greases and fats are not water soluble, they float and adhere to all surfaces creating maintenance headaches. For instance, grease accumulation clogs sewer lines, pipes and drains. This is why restaurants, commercial kitchens, supermarkets and fast-food locations are required to

install grease traps. If the grease is left untreated it must be pumped and hauled away as often as once or twice a month.

The BioPuck GT naturally consumes grease, oils and fats, thus reducing the disposal frequency and fees usually associated with hauling grease trap contents.

The BioPuck GT consists of a special blend of non-pathogenic and non-toxic bacteria for typical wash-water applications. These bacteria actually break down and metabolize the

HOW MANY PUCKS YOU'LL NEED

Grease Trap Size	Pucks Per Month	Applied How Often
Small	1	1 Each Month
Medium	2	1 Every 2 Weeks
Large	4	2 Every 2 Weeks



The Bio-Puck GT comes in a box of 20 pucks, in a 4-puck package (above) with containment nets and in a package of Fizzytabs, which are mixed with water to make a solution for pouring down pipes

kitchen greases as they accumulate. There are no hazardous by-products as the bacteria converts grease to carbon dioxide and water.

HOW SAFE IS THE BIO-PUCK GT?

The BioPuck GT was formulated with efficiency and safety in mind. The bacteria utilized in this product are classified by the American Type Culture Collection (ATCC) as Class 1 organisms.

Class 1 organisms are defined as:

1. Naturally Occurring: natural bacteria, endemic to earth, not genetically engineered;
2. Non-Pathogenic: will not cause disease;
3. Non-Opportunistic: will not cause disease in a compromised host.

All Water Maze bioremediation products are routinely tested and are guaranteed to be salmonella-free.

CONDITIONS FOR OPTIMUM OPERATION

- Temperature: working range 5°C-45°C (41°F-113°F); optimum range 28°C (82.4°F)
- pH: working range 6.5 - 8.5; optimum range 7.0 – 7.5
- Nutrients: Nitrogen 50-100 ppm
- Phosphorous: 50-100 ppm
- BioPuck GT Is Especially Effective in Degrading:

Grease	Lipids
Fats	Detergents
Oils	And more...
Proteins	

BioPuck GT

Environmentally Safe and Simple Remedy for Messy Kitchen Grease Traps

Only 1 - 4 Pucks per Month for a Grease Trap | Grease and Fats Turned to Water and CO₂ | Works in 41° to 113°F Water

FIZZYTABS: SOLUTION FOR DRAINS



The BioPuck GT also comes in another form to attack grease build up in drains and pipes.

The Fizzytab is a tablet that can be dropped into a gallon of water. Once the tablet is dissolved, pour the water down all drains or pipes exposed to kitchen greases, oils and fats.

Each tablet releases into the plumbing millions of beneficial bacterial, which immediately begin digesting excessive fats, oils,

greases, protein, starch and other organic matter that can accumulate in kitchen drains, pipes and grease traps creating maintenance headaches.

For optimum performance and minimal maintenance, it is recommended that one gallon of the Fizzytab water be mixed each day, pouring a little down every drain and pipe in the kitchen.

Each package comes with 30 all-natural tablets.

TESTIMONIALS

Here are just two examples of how the BioPuck GT was effective in dealing with wastewater in a kitchen application:

■ **Sanitary Surcharge Eliminated:** A restaurant in Houston, TX was discharging 325,000 gallons of wastewater through a 1,000-gallon grease trap each month until they were assessed surcharges of \$1,100 per month for unacceptable levels of BOD (biochemical oxygen demand) and TSS (total suspended solids). After two months of using BioPuck GT the monthly surcharge was reduced by 70%. Within a year the BOD level dropped from 2328 mg/l to 200 mg/l and the TSS went from 2660 mg/l to 240 mg/l eliminating the sanitary sewer surcharge altogether. And, just as importantly, the restaurant reduced the number of times it had the grease trap pumped and hauled from every two weeks to once per quarter.

■ **Dramatic Drop in BOD, TSS and FOG:** Another restaurant, this one in San Antonio, TX, was discharging 75,000 gallons of wastewater per month through a 1,000-gallon grease trap. After introducing five gallons of BioPuck GT each month for only six months, the BOD (biochemical oxygen demand) level dropped dramatically from 404 mg/l to 196 mg/l, the TSS (total suspended solids) plunged from 407 mg/l to 142 mg/l, and the FOG (fats, oils and greases) was reduced significantly from 122 mg/l to 66 mg/l.

	BOD mg/l	TSS mg/l	FOG mg/l	pH	Temp
6 months BEFORE	404	407	122	7.85	89°F
6 months AFTER	196	142	66	7.6	91°F

These Are the Elements That Must Be Present for Bioremediation to be Effective

- **Energy:** Hydrocarbons act as an energy source.
- **Carbon:** Hydrocarbons in the waste stream also serve as the carbon source. Carbon is needed for proteins, DNA, RNA and cell walls.

- **Oxygen:** Very important! Four pounds of oxygen is required for each pound of hydrocarbon.
- **Nitrogen:** Needed for amino acids, proteins, DNA, RNA and cell walls.
- **Phosphate:** Needed for DNA, RNA and energy reactions.
- **Minerals:** The bacteria use some of the same minerals you'd typically find in a multi-vitamin pill or supplement.

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An Enviro-Safe Solution for Oily Collection Pits

Converts Hydrocarbons to Water and CO₂

1 Puck Per Month for 1,000-Gallon Pit

Works in Water Temperature of 41° to 113°F

Remedy for Smelly, Oily Collection Pits

Award-Winning Product for Use in All Pits

Water Maze's BioPuck HC (Hydrocarbon) is an easy and effective way to dramatically reduce oil and other hydrocarbons in a wash-water collection pit or oil-water separator.

Simply drop a puck into the oily water and the bacteria goes to work consuming the hydrocarbons and oily waste, thus reducing the disposal frequency and fees usually associated with oil-water separators and collection pits.

HOW MANY PUCKS YOU'LL NEED

Pit Size (Gallons)	Pucks Per Month	Applied How Often
1 - 1000	1	1 Each Month
1000 - 2500	2	1 Every 2 Weeks
Over 2500	3	1 Every 10 Days

Designed to complement

the entire line of Water Maze wash-water treatment systems, the BioPuck HC is a slow-release tablet that delivers a constant supply of bacteria for as much as a month in a pit of up to 1,000 gallons in volume. (Note: It may take as much as a month to visually see a difference.)

The all-natural, environmentally friendly BioPucks consist of a special blend of non-pathogenic and non-toxic bacteria for typical wash-water applications. These bacteria actually break down and metabolize the hydrocarbons as they accumulate in



The Bio-Puck HC comes in a box of 20 pucks or a 4-puck package (above) with four containment nets and a BioNutrient additive

the oil-water separator. There are no hazardous by-products as the bacteria reduce hydrocarbons to carbon dioxide and water.

HOW SAFE IS THE BIO-PUCK HC?

The BioPuck HC was formulated with efficiency and safety in mind. The bacteria utilized in this product are classified by the American Type Culture Collection (ATCC) as Class 1 organisms.

Class 1 organisms are defined as:

1. Naturally Occurring: natural bacteria, endemic to earth, not genetically engineered;
2. Non-Pathogenic: will not cause disease;
3. Non-Opportunistic: will not cause disease in a compromised host.

All Water Maze bioremediation products are routinely tested and are guaranteed to be salmonella-free.

CONDITIONS FOR OPTIMUM OPERATION

- Temperature: working range 5°C-45°C (41°F-113°F); optimum range 28°C (82.4°F)
- pH: working range 6.5 - 8.5; optimum range 7.0 – 7.5
- Nutrients: Nitrogen 50-100 ppm
- Phosphorous: 50-100 ppm
- BioPuck HC Is Especially Effective in Degrading:

Hydrocarbons	Lubricating Oil
Gasoline	Crude Oil
Diesel	Paraffin
Jet Fuel	And others...
Motor Oil	
Heating Oil	

BioPuck HC

Environmentally Safe and Simple Remedy for Oily, Smelly Collection Pits

Only 1 Puck per Month per 1,000 Gallons | Hydrocarbons Converted to Water and CO₂ | Works in 41° to 113°F Water

BIO-PUCK HC'S EFFECTIVENESS

Each BioPuck HC contains roughly the equivalent of 2.5 gallons of liquefied bacteria. The following are case studies of how well the BioPuck and comparable HC liquid products have worked:

■ **Vehicle Repair Shop:** A repair shop for a fleet of 29 vehicles in East Boston, MA, was discharging from a 200 gal. oil/water separator. The Total Petroleum Hydrocarbons (TPH) level was 33,940 mg/L, far exceeding the max. level of 100 mg/L and costing the company \$16,000 per year with the extra fees. HC was injected daily and within 120 days the TPH level was reduced to 79 mg/L slashing the sewer costs to \$1,200 per year!

■ **Equipment Rental Company:** The wash-water pit of a rental company in the Northeast had 4 inches of floating oil in the pit. Also the company was hauling a drum a month of oil. Within a week of dropping in a BioPuck, the oil was down to droplets and the maintenance chief was ecstatic: "I'll save hours in pit cleaning!"

■ **Solid Waste Facility:** A solid waste maintenance yard in Phoenix, AZ, had a flow of 7,000 gallons per day of wastewater, costing \$7,000 in sewer surcharges plus \$600 per month to pump the oil-water separator. After injecting HC the TPH level dropped from 180 to 23.3 mg/L within 90 days for estimated savings of \$7,600 per year.

■ **Heavy Equipment Dealer:** A BioPuck was introduced to the collection pit of a Bobcat dealer in Cape Cod, MA. The pit had 2 inches of floating oil with an inch of emulsified oil underneath. Within three weeks the floating oil was down to less than 1/8-inch of floating oil and the emulsified oil was down by half.

LAB ANALYSIS OF THE BIO-PUCK HC

Below are results from a bench scale bioremediation evaluation using a liquid version of the BioPuck HC on a contaminated groundwater sample over a two-month period (measured in Parts Per Million — PPM).

Volatiles	0 Days	10 Days	26 Days	59 Days
Vinyl chloride	0.770	*BDL	BDL	BDL
Methylene Chloride	417.388	140.030	1.963	0.048
Acetone	129.942	44.720	2.161	0.543
1,1-Dichloroethylene	20.064	6.448	BDL	BDL
1,1-Dichloroethane	7.168	2.550	0.390	0.065
trans,cis 1,2 Dichloroethane	1.380	0.682	0.135	BDL
Chloroform	2.280	BDL	0.480	1.513
1,2 Dichloroethane	134.388	51.200	0.696	0.014
1,1,1 Trichloroethane	78.494	26.350	0.511	0.098
Carbon Tetrachloride	0.000	BDL	BDL	BDL
Bromodichloromethane	15.832	5.346	BDL	BDL
Trichloroethylene	29.772	11.660	0.204	0.065
Benzene	14.096	5.290	BDL	0.036
Bromoform	12.506	9.836	12.539	0.066
1,1,2,2-Tetrachloroethane	6.262	BDL	2.229	BDL
Methylisobutylketone	21.318	9.286	0.950	0.037
Perchloroethylene	0.966	BDL	BDL	0.027
Toluene	47.122	13.374	0.100	0.109
Chlorobenzene	0.000	BDL	BDL	0.163
Ethylbenzene	0.946	0.330	0.076	0.043
Xylenes, Ortho, Para	0.492	0.260	0.021	0.026

* BDL = Below Detectable Levels

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