

Chemical Waste



BIO-SYSTEMS
INTERNATIONAL

Specifications

Form: Free-flowing granular powder
Color: Brown
Nutrient Content: Biological nutrients & stimulants
Plate Count: 5 billion per gram

Packaging

250 grams water soluble packages protected by a foil overwrap.
10 kilos per plastic pail.

Storage

DO NOT FREEZE! Store in a cool dry location. Do not inhale dusts, avoid excessive skin contact. SEE M.S.D.S.

Application Instructions

Treatment Plants

Flow Rate

Up to 1,000 gpd
Up to 5,000 gpd
Up to 20,000 gpd
Up to 50,000 gpd
Up to 250,000 gpd
Up to 500,000 gpd
Up to 1 mgd
Up to 5 mgd
Up to 12 mgd
Up to 100 mgd

Initial Dosage

½ lbs. per day for 3 days
½ lbs. per day for 3 days
5 lbs.*
8 lbs.*
15 lbs.*
25 lbs.*
50 lbs.*
50 lbs. per mgd*
50 lbs. per mgd*
30 lbs. per mgd*

Maintenance**

½ lb. per week
1lb. per week
1½ lb. per week
2 lb. per week
¼ lb. per day
½ lb. per day
1 lb. per day
1 lb. per mgd per day
¾ lb. per mgd per day
½ lb. per mgd per day

* Spread this initial dosage out over the course of 10 days.

** Add as regularly as possible. If it is required to miss one day, add that day's product with the next dosage.

Dosage rate will vary with flow rates, retention times and system variations. The rates above are for a typical, well maintained system.

Activated Sludge Systems

Activated Sludge Systems include various process flow sheets for example: Extended Aeration, Contact Stabilization, Step Aeration, Oxygen Activated Sludge. The application rate for all products is based on the average daily flow rate to the aeration basin, excluding the return sludge stream. For seasonal or widely fluctuating flows, contact your BIO-SYSTEMS technical representative.

Trickling Filter and Rotating Biological Contactors

The application rate for all products is based on the average daily flow rate to the filter or contactor, excluding any recirculating process stream. For seasonal or widely fluctuating flows, contact your BIO-SYSTEMS technical representative.

Lagoon Systems

- For aerated lagoon systems, the application rate based on the average flow to the lagoon.
- For facultive lagoon systems, the application rate is based on the lagoon surface area:
Day 1 through Day 5 20 lbs. per acre per day
Day 6+ 2 lbs. per acre per week
- For anaerobic lagoons, the application rate is based on the total volume of the anaerobic lagoon.
<100,000 gallons 1 lb. - 2x per week per 5,000 gal.
>100,000 gallons ½ lb. - 1x per day per 5,000 gal.
- For lagoons in cold climates, commence program when the water temperature is a least 50°F



Case History 1023

A California Winery operates a lagoon treatment system for process wastes from the bottling operation. In November there was an accidental release of 2000 gallons of glycol to the first lagoon. The addition of BIO-SYSTEMS products enabled the operation to recover within twenty days.



Case History 1028

A Midwest Plant manufacturing high quality coke products generated waste water high in phenols, oils, and ammonia. A sequencing batch reactor system is used to pretreat the water before discharge to a POTW. During early operation of the SBR, the system was frequently out of compliance in effluent standard. They experienced foaming and regular upset conditions. Once a BIO-SYSTEMS program was established the treatment plant performance stabilized and effluent standards were consistently correct.



*Phenols, Benzene,
Alcohols and Amines*

Your local Distributor is:

The information presented in this Data Sheet is believed to be reliable. This information is provided as representative only and there are no warranties, expressed or implied, regarding its performance. Since neither distributor nor manufacturer has any control over handling, storage, use and application conditions, neither distributor nor manufacturer shall be responsible for loss, damage or expense arising out of or in any way connected with the handling, storage, or use of the product described.



1-800-232-BUGS
2 8 4 7
www.BIOBUGS.com

0000010

Chemical Waste



BIO-SYSTEMS
INTERNATIONAL

DESCRIPTION

BioBug CH contains a specially-formulated range of adapted, high-performance microorganisms for use in biological wastewater treatment of chemical wastes. As well as microorganisms, BioBug CH contains a micronutrient blend specially selected for chemical wastes. This micronutrient blend provides a complete formulation for maximum biological activity and reacts with chemical waste to produce biological enhancers.

When used as directed BioBug CH is safe and is harmless to people, clothing and the environment and is completely biodegradable.

When applied to effluent treatment facilities, BioBug CH helps to establish a biomass capable of handling these difficult wastes.

EFFECT

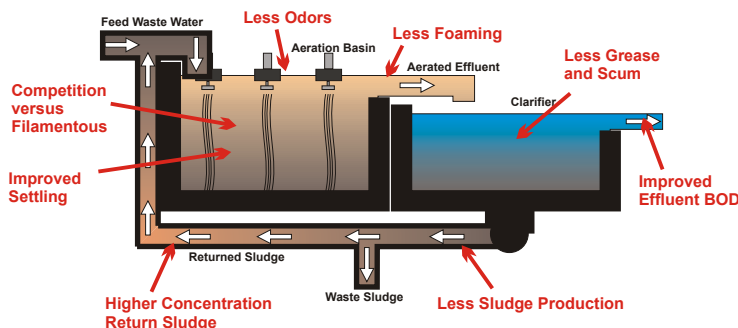
BioBug CH, with its aerobic and facultative anaerobic microorganisms establishes and maintains a biomass which by providing greater resistance to the effects of organic inhibitors present in chemical wastewaters, is able to perform more effectively than the naturally occurring biomass. BioBug CH ensures that the natural mechanism for the selection of the biomass population is presented with a range of selected microorganisms. These aerobic and facultative anaerobic bacteria have been taken from their natural environment and then adapted to give optimum performance.

Benefits of BioBug CH:

- Helps start-up in new plants
- Improves effluent quality
- Reduces plant upsets
- Increases overall efficiency
- Controls filaments
- Lowers odors and foam

Bacterial Formulation **Plus** **Bio-Enhancer** **Plus** **Micronutrient**

- Enhance organic removal efficiency of biological systems, providing lower effluent BOD, COD, and TSS.
- Enhance solids settling where it has been disturbed by loading fluctuations.



- Accelerate the start-up of new systems and aids recovery after upsets.
- Improve cold weather operation.
- Mitigate effects of chemical related loadings and toxic shocks.
- Reduce sludge production.
- Lower operating costs by reducing chemical consumption.
- Competes against filaments.



1-800-232-BUGS
2 8 4 7
www.BIOBUGS.com