

# BIO FX



Natural Bacteria / Enzyme Treatment  
For Food Wastes with High Fats & Oils Content



HYDRA®

## Features & Advantages

- ◆ Rapidly establishes and maintains biomass that degrades high fats and natural oil wastes.
- ◆ Increases BOD and COD removal efficiency - thus assisting organically overloaded plant.
- ◆ Ideal for chocolate waste management.
- ◆ Produces sludge flocs with superior settling characteristics that assists hydraulically stressed systems.
- ◆ Prevents the blocking, ponding and possible collapse of filter-bed media.
- ◆ Prevents build up of grease, oil and fat deposits on walls and other surfaces of the system.
- ◆ Restores the natural biomass after system upsets caused by caustic and acidic cleaning agents.
- ◆ Contains pH buffers that alter the harmful effect of acidic/caustic cleaning agents by helping restore the natural biomass.
- ◆ The maintained biomass aids in quick degradation of high grease waste.
- ◆ Includes broad spectrum bacteria giving constant reduction in COD levels and enhanced floc settling.
- ◆ Reduces ammonium levels.

## Description

Organic waste is made up of proteins, carbohydrates, fatty materials and fibres, which solidify and make it difficult to liquefy and reduce them.

The insoluble solids and suspensions element are particularly difficult to break down. As a result, the solid build-up and cake must be liquefied outside the bacterial cells and through the action of enzymes segregated by special bacteria.

The enzymes are protein biocatalysts produced by all living cells, which catalyse the specific biochemical reactions that turn the proteins, hydrocarbons, fats and fibres into products necessary for the cellular metabolism.

Once the cellular metabolism has been produced, the bacteria multiply and secrete enzymes that digest more waste material.



In essence, a biological chain reaction begins that can continue until all the organic material has disappeared.

Hydra Bio FX is a compound of aerobic and anaerobic bacteria necessary for the molecular metabolism of the waste.

Therefore, it works as a biological activator that breaks down the residual organic matter by enzymatic means.

Hydra Bio FX contains micro-nutrients that increase the activity of the enzymes, such as salts, humectants, energetic products that catalyse and accelerate decomposition reactions, and humidifiers to increase the contact between enzymes and the waste materials.

The formula of Hydra Bio FX complies with the principle of waste retention until the bacteria can digest the solid materials.

In this way, only the materials made soluble can flow from the bio digester or be easily absorbed into the normal waste stream.



## Description



Hydra Bio FX's broad spectrum bacteriological range gives consistent reduction of Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD) with improved floc settling.

### Highly Concentrated:

The formulation contains Group 1 naturally occurring and appropriate non-pathogenic bacteria in very high concentrations.

They are selected for their superior floc forming characteristics and their ability to breakdown fat, oil and grease substrates.

### Improves Efficiency:

Improves the rate of organic decomposition in bio-digesters which often have low residence times before entering the municipal waste system.

Decreases factory effluent waste stream BOD, COD and suspended solid values and reduces costly discharge penalties.

### Prevents Bad Smells:

Inhibits the formation of hydrogen sulphide which is the origin of bad odours in dairy and chocolate factory effluent.

Improves plant capacity and efficiency by limiting sludge build-up, rapidly degrading high fats and protein food industry wastes.

## COMPOSITION

### Anaerobic Bacteria:

The micro-organisms for the digestion of organic matter in the absence of air.

### Aerobic Bacteria:

The micro-organisms for the digestion of organic matter in the presence of air.

### Amylases:

These act on the carbohydrates (starches), turning them into dextrin's and soluble sugars.

### Proteases:

These turn the proteins into polypeptides and soluble amino acids.

### Lipases:

Their activity is developed on the greases, turning them into acids and soluble glycerol's.

### Cellulases:

Act on the cellulose, turning it into soluble sugars.

### Activators:

Are products that synergistically increase the activity of the enzymes, accelerating degeneration reactions.

### Wetting & Moisturising Agents:

These have the function of increasing the contact between the enzyme and the waste material, enhancing a fast action.



## How To Use

### Dilution Rates:

- ◆ 1 kilo Hydra Bio FX per 35m<sup>3</sup> of slurry.

### Treat weekly:

- ◆ To avoid wastage apply 1/3 of the total every other day i.e. Monday, Wednesday, Friday

### Repeat dose to be applied every week:

- ◆ Doses are by way of guidelines, as in each case it is necessary to consider the characteristics of each pit, drain or lagoon as well as the volumes.

### Directions for Use:

- ◆ Dissolve Hydra Bio FX in warm water not exceeding 45°C in a drum and leave to rest for 20 minutes.
- ◆ For large storage systems stir and add as much water as possible to dilute and spread or mix over the tank surfaces.
- ◆ Temperature enhances the action of Hydra Bio FX provided it does not exceed 45°C .
- ◆ For best results store product in cool dark place.

## Laboratory Facilities

Hydra International Ltd.'s Research & Development Laboratories are a hub of activity where new products are developed and formulated. We have working relationships with our raw material suppliers, many of these suppliers are major world-wide chemical manufacturers with their own development laboratories.

As a company we are well known in the chemical industry for being receptive to cutting edge new chemicals which can be incorporated into our products to achieve performance advantages. An important part of the International Standards that we hold is that of constant improvement. We show that we have achieved this at every independent audit.



## Hydra International Limited

8 Carters Lane, Kiln Farm, Milton Keynes MK11 3ER, U.K.

+44 (0)1908-265889 | [sales@hydra-int.com](mailto:sales@hydra-int.com)

[www.hydra-int.com](http://www.hydra-int.com)

