GNC MARINE

PRODUCT DATA SHEET

STP Solupak

STP Solupak

A highly active natural microbial additive for start-up, maintenance and toxic shock in biological sewage treatment plants and marine sanitation devices. Ensures the system operates at peak efficiency with high BOD reduction, short hydraulic retention times and low residual sludge. It will also improve operations and reduce odours on vessels operating sewage holding tanks.

PRODUCT DESCRIPTION

STP Solupak is an all-in-one solution for ensuring peak operating performance of biological sewage treatment system. It can be used to improve sludge settlement, build flocs and stabilize activated sludge. It can be used to overcome high organic loading, and to help re-establish a healthy bacterial population after washout or toxic shock. Unlike all other products of the same type STP Solupak is composed of 100% active material. This comprises a special blend of microbial cultures selected specifically to significantly increase the biodegradation of typical sewage wastes including faeces, paper, detergents, fats, oils and grease, and a wide variety of other organic materials.

STP Solupak also contains a balanced macronutrient package (C:N at ratio of 20:1) to ensure rapid growth and maintenance of activity during start up or periods of low flow (starvation of the biomass). Micronutrients such as trace metals are delivered via a slow release seaweed extract.

The bacteria used in STP Solupak manufactured in a GMP-compliant fermentation facility with an ongoing R&D development programme for strain development. The STP Solupak consortium contains strains resistance to chlorine (from cleaners and sanitizers) up to a concentration of about 20ppm. In addition, and to protect against accidental release of chlorine, a chlorine quenching additive is also added to offer protection up to 100ppm. To offer yet further protection, a specialised organic ingredient is added to the formulation to bind heavy and toxic light metals from reducing the respiratory activity of the biomass.

To aid the metabolism of the bacterial consortium the formulation also contains free enzymes (a total of 1% lipase, amylase, protease and cellulase).

STP Solupak is offered in convenient to meter and dose 100g cold water soluble PVA sachets.

APPLICATION AREA

STP Solupak is suitable for use in all Type ll and Type lll MSD's (see below).
Ships that operate Type ll systems will often encounter periods of low usage and so low flow to the treatment plant. In this case, the biomass may starve and wash-out in these cases STP Solupak can be used to maintain the system until flow is restored. Conversely, the system may be overloaded by high volume or high influent BOD, in which case STP Solupak will be used to efficiently deal with this extra load. Occasionally, a toxic shock may be encountered where a biocide or poisonous chemical enters the system (for example, bleach, laundry detergents, harsh cleaner) in which case STP Solupak can be used as a system restore solution after the toxic shock has passed.

Any loss of biological activity is often characterized by development of mal odours which may be emitted from toilets and drains. Ships that operate Type lll systems or other holding tanks can also use STP Solupak to reduce malodour, prevent the build-up of deposits floating and settled sludge in holding tanks, vacuum tanks and associated equipment.

DIRECTIONS FOR USE

FEATURES

- Contains bacteria specifically selected for their ability to breakdown organic materials found in sewage waste to ensure optimum efficiency in the marine sanitation devices.
- Bacterial strains are effective over a wide range of pH and temperature environments.
- Bacterial strains are resistant to chlorine up to 20ppm
- A chlorine quencher offers additional protection up to 100ppm.
- A heavy metal binding agent is added to remove toxicity from the biomass.
- Bacteria strains are also effective in low oxygen conditions.
- Contains a blend of free enzymes to add/stimulate the bacteria
- Available in 2kg and 10 kg packaging

BENEFITS

- Fast growing bacteria for start-up, upset recovery and maintenance of marine sanitation devices.
- Maintains optimum operating efficiency of biological sewage treatment plants by maintaining a high mixed liquor volatile suspended solids (MLVSS) resulting in lower BOD.
- Promotes the formation of chemical resistant biomass.
- Prevents or significantly reduces malodours.
- Reduces build-up of floating and settled sludge Type II and Type III system
- Easy dose from convenient small and large pack formats, suitable for ships and platforms of all size.

GNC MARINE

APPLICATION/DIRECTIONS FOR USE

MSD's are rated per person equivalent (PE)to achieve satisfactory performance. STP Solupak is designed based on the average daily calorie intake of 3000kcal/person. Application rate is then adjusted accordingly for ship type and use. For example, for a complement of 25 persons, then:
- Start up dose: 4 sachets can be dosed directly in the toilet without pre-mixing.
- Weekly maintenance: 1 sachet

Sachets can be added directly to the MSD reactor or added simple via the nearest toilet bowl. If the latter, allow the sachet to fully dissolve, then flush.
The table below is a guide to the number of STP Solupak sachets required based on greater PE's

Size of MSD Reactor System	Start-up dose	Maintenance (Weekly Dose)	Total requirement for start-up and 12 months' operation
1 – 5m^3	4 sachets	1 sachet	56 sachets (less than 1 bucket a year)
5 – 8m^3	8 Sachets	2 sachets	60 sachets (less than 1 bucket a year)
8 – 10m^3	16 sachets	2 sachets	120 sachets (less than 2 bucket a year)
10m^3+	40 sachets	3 sachets	196 sachets (2 bucket a year)

** or per sewage plant if multiple plants*
*** Volumes of greater than 20 litres should be added using multiple mixtures due to manual handling issues.*
**** Dependent upon BOD load of 50-80g/person/day once in regular use producing an average BOD of 200-500mg/L*

Solupak. Add:
Start-Up: 2-5x100g per 1m3/day for 3days *

Maintenance: 1x100g per 1m3/day as required (dependent upon load and influent BOD)

Upset Recovery/Toxic Shock 5 x 100g per 1m3/day as required

GNC MARINE
GNC Marine
Sandvadsvej 17B
DK-4600 Koege
Denmark
T: +45 8844 6400
E: gnc@gncmarine.com