

TECHNICAL DATA FOR BIO SOL from Metatec Environmental

General Description

Bio Sol is a live, bacterial suspension treatment. It breaks down and liquefies suspended solids such as fats, proteins, carbohydrates and grease. It immediately neutralizes all malodours, particularly Hydrogen Sulphide.

Characteristics

Non toxic, contains no Pathogenic bacteria, does not carry disease, non contaminating, non acidic, non caustic, non corrosive, no polluting phosphates, No mixing and No mess!

Bio Sol first builds 'colonies' and produces enzymes . When full strength is attained they lie dormant until organic waste is present. They then become 100% active until their work is done at which time they begin rebuilding their 'colonies' to replace the fatalities and the cycle is repeated.

Storage

No special facilities required.

Shelf life

Excellent.

Activity

100% active.

pH range

Most effective at 6.8 to 7.2.

Usage

Used in all waste lines and facilities to reduce BOD's (Biological Oxygen Demand), to eliminate H₂S odours, to keep waste flowing freely and to keep lines open to their full diameter.

Warning

Disinfectants, Chlorinated products, strong detergents & very hot water (160 degrees or higher) will kill off some of the bacteria. It is important to administer the daily dose of Bio Sol at times when they are least likely to be followed by one of the above.

Animals & Humans

Bio Sol will not harm animals.

However, discomfort will follow Bio Sol comes into contact with eyes. Under no circumstances should Bio Sol be swallowed. Vomiting should NOT be induced should swallowing occur. Please refer to Safety Sheets for complete information. Avoid contact with open wounds or sores.

Environmental effects

Bio Sol is non-toxic and contains only non-pathogenic bacteria which reduce BOD. Biological Oxygen Demand, which describes the amount oxygen needed for biochemical oxidation of wastes.

When BOD is high, so much of the oxygen in the water has to be used for oxidising the waste that there is not enough oxygen for marine life to survive. Bio Sol therefore reduces the effects of BOD and does not harm aquatic life.

Plants

Bio Sol is harmless to plants. In fact, plant life downstream from the treatment area should show improvement as Bio Sol breaks down greases and other waste that may adversely affect the plant life.

Metals & other surfaces

Bio Sol will not harm any surface it comes into contact with. There is no risk of corrosion, discolouration or deterioration.

Packaging

Bio Sol comes in 500ml, 5litre, 10 litre, 20 litre and 50 litre containers.

Section 1

DRAINS AND MAINS

What is Bio Sol?

Bio Sol is a suspension treatment that consists of specially developed Non Pathogenic Bacteria. They are harmless to animals, Man and marine life. They reduce BOD (Biological Oxygen Demand) and pollution potential. The bacteria in Bio Sol will also control and neutralize Hydrogen Sulphide odours. Bio Sol will work on all waste producing odours and gases safely.

Bio Sol works two fold while in drains and pipes, firstly the bacteria will break down the organic waste that causes the odours and instantly neutralize any malodours being produced during this process. This digestion process eliminates the odour producing waste at source, so eliminates the problem.

Bio Sol cannot rest in the presence of organic waste materials, they must process it! Once they have achieved this end they will then concentrate on building their colony population back up to full strength. When they get to that stage they will go dormant and wait for organic waste to be introduced again.

Bio Sol will build a colony in elbow bends, S bends or anywhere else that solid waste can accumulate. As long as you continue to introduce the treatment the Bacteria will keep working where you need it.

Please note; wood, plastic or metal objects will need to be removed manually.

PROBLEM

It is the nature of drains and plumbing systems to trap and accumulate solid waste and organic matter. The very soaps we wash with can be responsible for drastically reducing the diameter of pipes and so add to the problems of odours and slow running drains. It is not uncommon for a 4" drain to be reduced to 2" with soap scum build up being the main culprit.

SOLUTION

Bio Sol will neutralize any malodour as it devours, soap scum, grease, human waste, food debris and other solids that can caused build up, reduced flow or blockages.

TIMING

It is preferable that Bio Sol should be applied at the end of the working day or at the lowest drain use time. Preferably after all clean up routines are finished. For maximum efficiency Bio Sol needs time to act in the drain and pipe work. For greatest impact leave Bio Sol undisturbed for a minimum of 4 hours.

INSTRUCTIONS

Bio Sol should be poured directly into drains and plugholes. Starting on the lowest floor of the building and working your way upwards one floor per day, until the entire system has been treated and is running freely. Treat only from the top floor once this has been done. The most efficient way is with a timed drip feeder. As Bio Sol is helping nature to fight pollution, it is 100% ecologically safe. It will not harm any surfaces or fixtures that it comes into contact with and will enhance the work of bacteria in septic tanks and grease traps.

It is advisable to treat urinals, garbage disposals and food preparation sinks separately and in addition to the system feeder.

Pipe size	Dosage	Frequency
5cm	30ml	Twice per week
10cm	60ml	Twice per week
15cm	90ml	Twice per week
20cm	120ml	Twice per week

Bio Sol will be rendered useless by Chlorinated products, Disinfectants, strong Detergents or very hot water. Allow water to run through the system for a minute or two after clean up routines are over then apply the Bio Sol or set your automated feeder to carry on overnight or during your slowest time. During the introductory period, days 1-35, you may exceed prescribed amounts to speed up your Bio Sol colonies. Once the colonies are firmly established follow the schedule unless spectacular decreases of flow are noticed during any thirty-day period.

RESULTS

Drains will flow freer, foul odours will disappear, pipes will be restored to their original diameter, toilets and urinals will be much more pleasant to use.

DRAIN TREATMENT CHART

Besides the regular direct treatments of your drains, it is recommended that from time to time you also treat dishwashers, janitorial closets, urinals etc. Below is a chart with other areas and treatments amounts required for best effect.

AREA OF USE	IN ADDITION TO MAIN TREATMENT	INSTEAD OF MAIN TREATMENT
Dishwashers	30ml weekly	500ml weekly
Floor Drains	30ml weekly	500ml weekly
Garbage Disposal Units	30ml weekly	200ml weekly
Grease Traps	200ml weekly	500ml weekly
Urinals	60ml weekly	120ml weekly
Toilet bowls	60ml weekly	120ml weekly
Toilet wash basins	60ml weekly	120ml weekly
Dish washing sink	60ml weekly	120ml weekly
Hand washing sink	30ml weekly	60ml weekly
Food preparation sinks	100ml weekly	300ml weekly
Vegetable peelers	60ml weekly	100ml weekly
Refrigerator drains	60ml weekly	60ml weekly
Ice bin drains	60ml weekly	60ml weekly
Laboratory sinks	60ml weekly	100ml weekly
Mop / Cleaning sink	60ml weekly	60ml weekly
Stack-Vent	30ml weekly	30ml weekly
Toilet & Urinal pipe work	100ml Bi-weekly (spray)	100ml Daily (spray)

Section 2

GREASE TRAPS

The Non Pathogenic Bacteria in Bio Sol feeds on the suspended solids in your grease trap. It breaks down proteins, greases, fats, sugars, starches and carbohydrates and liquefies them. This enables them to flow freely while simultaneously eliminating odours. What this means to you is increased efficiency and less cost is involved in 'call out' charges and drain clearance by outside contractors.

PROBLEM

A very costly and extremely unpleasant side of running a restaurant or take away food establishment is a grease trap overflow. The overflow is mainly caused by fast flowing fats and greases entering a grease trap that is already clogged up with solidified grease. As you cant shut down a trap or turn it off the best course of action is to stop it clogging in the first place. The easiest way is to stop the grease and fats from solidifying.

SOLUTION

Bio Sol will start to break down fats and grease as soon as they enter the trap, these then stay free flowing and prevent solidification within the grease trap so no more manual cleaning, overflow or bad odours.

PROCEDURE

For the best long term effects it is better to start treatment immediately after the grease trap has been cleaned. Though it is never too late to start! Add 500ml per Cu. Ft capacity of Bio Sol directly in to your grease trap.

At close of business and preferably after you have finished your clean up routine, pour lukewarm water down all grease trap entry points for 5 seconds. This is to ensure no harsh chemicals are present in the pipes. DILUTE 500ml of Bio Sol with 3 litres of lukewarm water, pour this solution slowly down all entry points. Repeat this procedure twice weekly. If a top crust is visible add 500ml per 25CU.ft capacity repeat every 3 days until crust disappears. One week later you can start your preventative maintenance programme. The grease trap must be treated first or it may receive more grease that it can handle. If this happens it can become overloaded.

TIMING

At close of business or after peak period is best.

RESULTS

Free flowing grease traps, no foul odours, no manual cleaning, no expensive call out charges and less frequent emptying required.

PREVENTITIVE MAINTENANCE

Treatment should always be applied first on the lowest level of the building, that is, the nearest point to the grease trap. If you have a blockage or a particularly slow drain on an upper floor you must still treat the lower floors first. Each drain entry point should be treated on the lower floor by pouring Bio Sol directly into all drains, sinks, toilets, urinals etc. Carry this routine daily floor by floor until top of building is reached. Bio Sol will release large amounts of debris from plumbing that no other method has been able to reach. The reason for starting at the bottom and working up will preclude debris from upper floors lodging against blockages from lower floors and making a bad situation worse!

Always treat the grease trap before the rest of the building otherwise you could cause a blockage by introducing more pipe debris that it can cope with. If the facility uses deep fat fryers the treatment must be done on a regular basis. An automated drip feeder is by far the best option.

Size of trap	20cu.ft	40cu.ft	60cu.ft
Treatment	120ml per day	240ml per day	360ml per day

Initial Bio Sol Treatment

- i. Make sure any crust or cap is broken.
- ii. Add directly to the trap 500ml of Bio Sol per 25cu.ft. capacity.

One week later begin preventative procedure. Drip feed guide as above.