



Speciality No. **13**

DOMESTIC & INDUSTRIAL WASTE WATER TREATMENT AEROBIC MICROBIAL CONSORTIA

Application Areas: Bio-Doze™ I3 contains a synergistic blend of highly advanced and selectively adopted microorganisms, which are naturally occurring, non-genetically engineered; which have been subjected to stringent antibiotic screening; which are designed to provide accelerated degradation of difficult to digest fats, oils, protein, starch, carbohydrates, Uric acid, detergents, hydrocarbons phenols; Cotton, Plastics, Hair, Tissue, Filters etc. It also contain the nutrients required by these microbes which help them to act even in the anaerobic or harsh conditions. As a bioaugmentation product for

- ETP
- STP
- Lagoons
- Effluent lines
- Holding ponds
- Septic systems
- Sewage pits
- Vault and pit toilets
- Drain lines
- Grease traps
- Lift stations
- Wet wells
- Composting toilets
- Municipal compost yards
- Public toilets

Composition: Wastewater Treatment systems rely on microbes to perform the function of the breakdown of sewage influent. These microbes live in the sludge of treatment plants and holding tanks. They digest the solids and breakdown various compounds. Certain microbial species possess an affinity for biodegrading industrial wastewater, containing high levels of VOC's with extremely high BOD's, specifically difficult substances such as phenols, phosphorous, chlorinated hydrocarbons and proteinaceous compounds, at accelerated rates. Each gramme of the product contains up to four billion microbes. There are up to 76 different strains of bacteria which can biodegrade very diverse types of molecules. These microbes increase the efficiency of the treatment plants without increasing their capacity. The Mineral solubilizing Microbes present in Bio-Doze™ I3 are :

- Thiobacillus microbes to oxidize the H₂S gas.
- Lactobacillus to combat E coli and Salmonella.
- Nitrobacter which converts HNO₂ into HNO₃. (Nitrite into nitrate)
- Nitrosomonas Nitrifies; Obligates autotrophs; Solubilizes Phosphorous; Converts NH₃ into HNO₂.
- Activated Carbon, Activated Hydrated Sodium Aluminium Silicate, Activated Aluminum Sulfate, EDTA, Humic substance, Herbs like Yucca, Methi, Potassium Mono Persulfate,
- Enzymes like Protease and Lipase.

Activated Carbon in I3 adsorbs obnoxious gases. It binds all the virus. It helps in removing halogens such as ozone, chlorine and bromine; and in removing color and metabolic by-products. It adsorbs Chlorine and some chloramine, many dissolved organic contaminants, trihalomethanes (THM), and phenolics, total organic carbon (TOC), oil and hydrocarbon contamination, ozone, bromic acid and total organic halogens (TOX), adsorbable organic halogens (AOX) including chloroform, biological oxygen demand (BOD), chemical oxygen demand (COD), colors, pesticides, odors and more.

Activated Hydrated Sodium Aluminium Silicate in I3 adsorbs poisonous gases. It improves CEC. **Activated Aluminum Sulfate** help in coagulating all the suspended solids. It lowers the pH. **EDTA** is a bleach precursor. It binds Heavy Metals. **Humic substances** have the ability to influence in particular the metabolism of proteins and carbohydrates of microbes by catalytic means. This leads to a direct devastating effect against virus particles. A second mechanism is related to the interionic bonds of high-molecular protein fractions (toxins) of infectious microbes. **Yucca and Methi** absorb all the harmful gases. **Potassium monopersulfate** compound is an important auxiliary agent in organic synthesis for oxidizing plenty of organics and functioning as the epoxy oxidizer of the twin bonds of organic chemicals. It's also a free radical introductory agent in many polymeric reactions. Potassium monopersulfate can be used to oxidize hydrogen sulfide (H₂S) and other reduced sulfur compounds, such as mercaptans, sulfides, disulfides, and sulfites in waste water treatment. **Enzymes** like Protease and Lipase help in degrading the Proteins and greases.

Specifications: The specifications of Bio-Doze™ I3 are

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| 1. Bulk Density: | 0.6 - 0.8 gr/cc |
| 2. Color: | Light Brown |
| 3. Effective pH Range: | 5-9. |
| 4. Free from | Anthrax, Salmonella, E Coli. |
| 5. Nutrient Content: | Natural enhancers, nutrients & stimulants |
| 6. Optimum Temperature: | 10-40 °C. |
| 7. pH: | Neutral. |
| 8. Physical Appearance: | Free-flowing granular powder |
| 9. Plate Count: | 4 x 10 ⁹ |
| 10. Shelf Life: | Two years. |
| 11. Solubility: | Disperses in water |

Application Needs:

- To improve BOD, COD
- To Improve C:N ratio
- To coagulate suspended solids.
- To degrade the harmful substances and to make them harmless to the environment.
- To degrades detergents, fats, oils and grease
- To eliminate odors
- To keep effluent systems trouble free
- To produce rapid system recovery
- To reduce organic loading to effluent drain field
- To reduce aeration frequency

Method of Application & Dosage: At 2 ppm – 4 ppm of aeration tank volume once for 7 days or as advised separately

Limitations: Do not apply under low pH conditions.

Packing: 1 Kg, 5 Kg and 25 Kg

Shelf Life & Storage: Shelf life is 9 months from the date of manufacturing in unopened condition. Store in a cool & dry place. Avoid direct contact with eyes.

Health & Safety Precautions: No known skin effects. Do not take internally. Use with adequate ventilation does. It does not contain animal components, animal by-products, manure or manure by-products. I3 is environmentally safe and is not harmful to animals, plants and humans.

For more details please contact IKS PROJECTS & SERVICES (P) LTD. an ISO 9001:2008 Company

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