



ESPT - PHENOL TREATMENT

ESPT is a microbial formulation for use in treating wastewater that ensures the rapid recovery from toxic shock caused by phenols and other aromatic compounds such as cumene, catechol and cresol. Typically, the susceptibility of biomass to upset depends primarily on the magnitude of change in phenol concentrations. **ESPT** contains microbial strains capable of uninhibited growth at high phenol concentrations. Applicable processes include, but are not limited to, steel coking, coal conversion, petroleum cracking, plastic resins and pharmaceuticals.

BENEFITS OF ESPT:

- Enables rapid recovery from toxic shocks caused by phenols and associated compounds
- Reduces or eliminates upsets that result from variable phenolic loadings
- Reduces the inhibitory effects of phenols by increasing the growth rates and sustainability of phenol degrading biomass
- Reduces the negative impact of production increases on effluent quality
- Degrades various halo substituted aromatics such as bromo and chlorophenols
- Improves stability as measured by the quality and variability of biological effluents through the introduction of microbial strains with higher growth and substrate utilization rates

FEATURES OF ESPT:

- Contains vegetative and spore forming microbial strains capable of utilizing aerobic, facultative and fermentative metabolic pathways
- Does not contain raw enzymes, surfactants, VOC's or solvents
- Enables rapid germination & spore outgrowth
- Adheres to a variety of surfaces & supports bio-film formation

TYPICAL APPLICATIONS:

- New plant start up
- Post shut down and start up
- Seasonal maintenance i.e. cold climate conditions

TYPICAL APPLICATION RATES FOR LAGOON SYSTEMS:

- For aerated lagoon systems, the application rate is based on the average flow to the lagoon

Days 1 through 5	20 kg/10,000m ² /day
Day 6+	2 kg/10,000m ² /week

- For anaerobic lagoon systems application rates are based on total volume

<200,000 L	1 kg –2x/week per 10,000L
>200,000 L	0.5 kg –1x/day per 10,000L

TYPICAL APPLICATION RATES FOR TREATMENT PLANTS:

Flow Rate	Initial Dosage	Maintenance
Up to 0.1 L/sec	0.5kg/day for 3 days	0.5 kg/week
Up to 0.5 L/sec	0.5kg/day for 3 days	1.0 kg/week
Up to 2 L/sec	5 kg*	1.5 kg/week
Up to 5 L/sec	8 kg*	2.0 kg/week
Up to 25 L/sec	15 kg*	0.25 kg/day
Up to 50 L/sec	25 kg*	0.5 kg/day
Up to 100 L/sec	50 kg*	1.0 kg/day
Up to 500 L/sec	50 kg/100 L/sec*	1 kg/100 L/sec/day
Up to 1200 L/sec	50 kg/100 L/sec*	0.75 kg/100 L/sec/day
Up to 10,000 L/sec	30 kg/100 L/sec*	0.5 kg/100 L/sec/day

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

Notes:

1. Add as regularly as possible. If it is required to miss one day, add that day's product with the next dosage
2. Dosage rate will vary with flow rates, retention times and system variations. The rates above are for a typical, well maintained system
3. For extended aeration, contact stabilization, step aeration, oxygen activated sludge, etc., application rates are based on the average daily flow rate to the aeration basin, excluding the return sludge stream
4. When using Trickle Filter or Rotating Biological Contactors, application rates are based on the average daily flow rate to the filter or contactor, excluding any re-circulating process stream

TYPICAL CONDITIONS FOR USE:

Effective pH range: 6.0 – 9.0. Optimum pH 7.0

Microbial activity is affected by wastewater temperature. Microbial growth doubles with each 10 C (18F) increase in wastewater temperature to an upper limit of 40 C (104F), unless otherwise indicated. Microbial activity is significantly reduced at temperatures below 5 C (41F). For lagoons in cold climates, commence program when the water temperature is a least 50F

SPECIFICATIONS:

Form: Free-flowing granular powder

Color: Brown

Nutrient Content: Biological nutrients & stimulants

Plate Count: 5×10^9

pH: 6.5 – 7.5 (re-hydrated state)

Bulk Density: 0.6 - 0.8 gr/cc

Water Solubility: Moderate - disperses in water

Flash Point: N/A

Sensitive to static discharge: Not sensitive

Stability: Max loss 1 log/yr

SAFETY:

The materials used in the production process are derived from naturally occurring and sustainable sources. **ESPT** is non-caustic, non-corrosive, non-flammable and environmentally safe. **ESPT** is not harmful to animals, plants and humans.

COMPLIANCE:

Fully complies with EPA Toxic Substance Control Act (TSCA) and the rules, orders and regulations promulgated there under including:

- a) Sections 4, 5, 6 & 7; Title 40 Chapter 1, 707.20 thru 707.75;
- b) 40 CFR Sections 704.3. 710.2(e) and 720.3(c); and
- c) Sections 5 and 13, reference 42FR64583
- d) Does not contain marine pollutants as defined in 49 CFR 171.8.

STORAGE & HANDLING:

Do **NOT** freeze. Store in a cool location away from direct sunlight - No special handling required

PACKAGING:

10 kg. (22 lb.) HDPE Pail - 250 gr. (8.8oz.) water soluble pouches

10 kg. (22 lb.) HDPE Pail - Bulk

110 lb. Fiber Drum - Bulk