



ESPP - PULP & PAPER TREATMENT

ESPP is a natural product, formulated to increase efficiency and reduce costs associated with the treatment of pulp and paper waste. **ESPP** is effective in degrading cellulose under both aerobic and anaerobic conditions in waste water treatment plants and lagoons. **ESPP** contains high potency enhancers, nutrients and stimulants that reduce foaming and suppress the growth of the filamentous organisms.

BENEFITS OF ESPP:

- Reduces unpleasant odour emissions
- Increases efficiency in over-loaded systems
- Improves BOD and TSS in effluent
- Enhances solids settling
- Accelerates the start-up of new systems
- Aids in recovery after upset
- Improves cold weather operation
- Mitigates effects of loadings and toxic shocks
- Reduces sludge production
- Lowers operating costs by reducing chemical consumption
- Competes against filaments

TYPICAL APPLICATION RATES

Flow Rate	Initial Application	Maintenance
Up to 1,000 gpd	½ lb. / day for 3 days	½ lb. / week
Up to 5,000 gpd	½ lb. / day for 3 days	1lb. / week
Up to 20,000 gpd	5 lbs.*	1½ lb. / week
Up to 50,000 gpd	8 lbs.*	2 lb. / week
Up to 250,000 gpd	5 lbs.*	¼ lb. / day
Up to 500,000 gpd	25 lbs.*	½ lb. / day
Up to 1 mgd	50 lbs.*	1 lb. / day
Up to 5 mgd	50 lbs. / mgd*	1 lb. / mgd / day
Up to 12 mgd	50 lbs. / mgd*	¾ lb. / mgd / day
Up to 100 mgd	30 lbs. / mgd*	½ lb. / mgd / 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 Trickling 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 APPLICATION RATES FOR LAGOON SYSTEMS:

- For facultive lagoon systems, application rates are based on lagoon surface area

Days 1 through 5	20 lbs. / acre / day
Day 6+	2 lbs. / acre / week

- For anaerobic and aerated lagoons, application rates are based on lagoon volume or the average inflow to the lagoon

<100,000 gal.	1 lb. - 2x / week / 5,000 gal.
>100,000 gal.	½ lb. - 1x / day / 5,000 gal.

** 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 x 10⁹

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. **ESPP** is non-caustic, non-corrosive, non-flammable and environmentally safe. **ESPP** 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