

# FOR WATER FOR LIFE

## Textile & Dyeing Bio augmentation

Special microbial enzyme for Textile & Dyeing wastewater, Effective to reduce surfactant in wastewater



# Textile & Dyeing bio-augmentation

## Introduction

Textile & dyeing wastewater create several challenges include treatment chemicals, wastewater treatment operating costs or surcharges, sludge disposal costs and power consumption.

These issues make the challenge of allocating and effectively managing water—with a focus on sustainability and energy efficiency—a critical component to textile processing operations.

### Typical Textile Wastewater Composition

- Typically, wastewater effluent from textile processing operations has the following characteristics:
- Non-biodegradable organics/inorganics such as metals, phenols, color, pesticides and phosphates and certain surfactants;
- High concentration of total suspended solids (TSS);
- Biological oxygen demand (BOD) and chemical oxygen demand (COD); and
- Elevated levels of total dissolved solids (TDS).

Tangsons microbial enzyme is not only to reduce its operating costs, but also to reduce its water footprint and decrease the ecological impact from its wastewater discharge and solids sludge generation on the surrounding ecosystem.

## What is Textile & Dyeing bio-augmentation?

High Potency, Bacterial-laden, Powdered formulation, Selected from natural, contains a specially formulated blend of microorganisms, micro and macronutrients, fungi, and surface tension, suppressants or penetrants, developed for use in bio augmentation.



## Application & Uses

- Textile wastewater
- Dyeing wastewater

## Benefit

- ✓ Reduces toxicity of surfactant and De-foam effect
- ✓ Improve oxygen transmission and aeration efficiency after surfactant reduction.
- ✓ Increased BOD and TSS removal efficiency, enhances BOD/ COD removal in Textile & dyeing wastewater,
- ✓ Reduces surfactant & dyeing chemical,
- ✓ Help for decoloration, reduce decolorize agent consumption cost.
- ✓ Reduce chemical consumption and saving cost,
- ✓ Achieve improved final effluent permit results,
- ✓ Quick recovery from shock load and toxicity.

## Dosage:

Initially dosage 10~ 30 gram per cubic wastewater to start-up biomass culture,

Routine dosage 1~5 gram to maintain performance.

# CASE STUDY



## COATS ( Shenzhen) INDUSTRY

Coats (Shenzhen) Industry is subsidiary of British Coats group, mainly involved in sewing thread, embroidery thread and zipper.

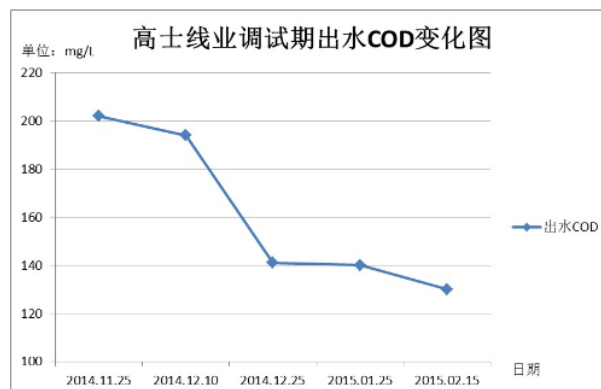
### Wastewater features:

- Wastewater treatment capacity: 2800 m<sup>3</sup> /d;
- Coagulant & flocculants consumption USD 42,000/m
- Dyeing wastewater mixed with sewage waster;
- High concentration of COD; Deficiency of nitrogen and phosphorus nutrient;

### Solution:

- Stop using coagulant & flocculants; After adjusted pH, directly into aeration pool;
- Adopted **Textile & Dying Bio- augmentation & COD Removal** bacterial products;
- After 3 month, cultivated mature and stable activated sludge, Wastewater discharge meet the standard;

	PH	Temp	COD	NH <sub>3</sub> -N	BOD	TDS	TSS
Inflow	6-9	15-40	<1500	<10	<660	<1500	<200
Outflow	6-9	15-40	<150	<8	—	—	—





山东如意印染产业集团  
Shandong Ruyi Printing and Dyeing Industry Group

Shandong Ruyi Digital Technology Printing and Dyeing Co., Ltd. is a wholly owned subsidiary of Shandong Ruyi Science & Technology Group. It owns 3000 staff, with 1000 various technicians, is the domestic well-known wax production base.

### Wastewater features:

- Wastewater treatment process: EQ + A/O + 2<sup>nd</sup> sedimentation + DAF + UF + RO
- Sludge become filamentous bulking,
- Low performance for hydrolysis acidification pond, removal ratio is just 5% ~9%
- UF influent COD parameter is very high, UF system runs under pressure, UF membrane is requested to clean daily.

### Solution:

- Increase MLSS in hydrolysis acidification pond by system reflow,
- Sludge discharge, keep sludge age at 15 days
- Control influent in EQ Pond to avoid fluctuation,
- Sludge discharge, keep sludge age at 15 days
- Increase D.O in aeration pond no less than 2 mg/L, Dosing Textile & Dyeing bio augmentation product,

