SCD Probiotics®

Case Study Summary – Water Quality Improvement and Odor Control with SCD ScentGuard™ in Wastewater Treatment Tannery Plant

Wastewater – Water quality and odor control (CSS-038-07)

Industry: Wastewater
Product: SCD ScentGuard™ (Formerly sold as SCD Odor Away™)
Application: Probiotics applied to reduce odors and chemicals in a wastewater treatment plant's equalization tank

Highlights

- Water quality improvement
- Sludge production was reduced
- Maintenance of water-treatment operation is easier and cheaper than previous years

Introduction

For the wastewater treatment plant in this study, the removal and handling of sludge—produced both on- and off-site—was one of its most neglected operational areas. Organic and other ingredients were responsible for high BOD (Biological Oxygen Demand) and COD (Chemical Oxygen Demand) values, as well as considerable amounts of other undesirable constituents like chromium (Cr). This represented an immense pollution load that—coupled with odor issues—caused significant technical problems that required costly technologies to treat.

The water treatment plant has a capacity of 4000 m^3/d. The wastewater to be treated comes from individual tannery plants (approximately 120 plants) and then, once treated, is re-used (100%) by the tanneries. Initial test results show that COD, BOD, TSS, and Cr are beyond Environmental Standards Regulation of treated water. The main goal of this trial is to reduce odor, COD, BOD, TSS and chromium in the equalization tank before it reaches the primary treatment.

Table I: Environmental Standards Regulation of Treated Water

Parameter	Unit	Standard Output India Act
Chemical Oxygen Demand (COD)	mg / l	≤250
Biological Oxygen Demand (BOD)	mg / l	≤30
Total Suspended Solids (TSS)	mg / l	≤100
Chromium (Cr)	mg / l	≤25

Methodology

The product SCD ScentGuard concentrate is introduced through the equalization tank (Figure 1), which receives water from all tannery plants (120 overall) of the industrial complex. Specific treatment is done by applying 0.004545 L of SCD ScentGuard (Figure 1) concentrate per cubic meter of wastewater.

Figure 1: Product Application in Equalization Tank

Equalization Tank: 36mΦ x 4m deep

Application of SCD ScentGuard

Results

The project objectives were achieved and have been maintained with a significant improvement in odor control and a continued improvement in the quality of water obtained after treatment.

Other benefits include:

- Reduction of sludge production.
- Maintenance of water-treatment operation is easier and cheaper than previous years.
- The installation and implementation costs of the probiotic are minimal, all expenses associated with the project were within the budget which means higher return on investment due to elimination of chemicals used previously.

Conclusions

COD, BOD, TSS and Cr, which are the parameters considered in this study, were improved and in compliance with the local Environmental Standards Regulations. This reduced sludge and odor issues in the plant, demonstrating that the product used in this study is very effective at addressing issues in wastewater treatment plants – especially tanneries' wastewater. The results show high potential for applying SCD ScentGuard as a solution to address wastewater problems. This is also a good reference for further research.