

Wastewater Treatment Microbes

SRM 1004

Surfactant Reducing Microbes



Technical Data Sheet

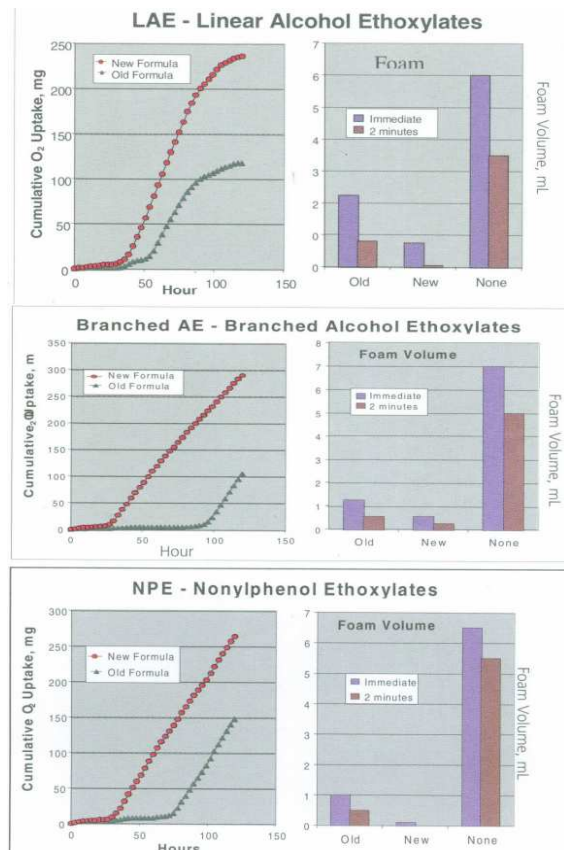
SRM 1004 Surfactant Reducing Microbes for the degradation of nonionic and anionic surfactants in wastewater. Recent years have seen a global shift in use away from nonyl-phenol ethoxylated (NPE) surfactants towards linear and branched-chain alcohol ethoxylates, due to the more environmentally friendly reputation of alcohol-based compounds. In response to this shift, Hundreds of bacterial strains were screened using respirometry, foam testing, and surfactant monitoring to identify key performers that have now been incorporated into a new formulation of 1004. Each test was conducted as a “sole-source” test in which growth occurs only if the bacteria are able to utilize the target compound as their only source of food.

The left half of each chart compares the cumulative oxygen uptakes of the old and new formulations and shows both reduced lag periods and significant increases in activity on all three classes of surfactants tested. The greatest improvement is seen in the middle chart with the branched-chain compounds, which, due to their branched structure, are naturally more resistant to biodegradation.

The right half of each chart compares the foam heights observed during a simple procedure performed at the end of each test. In the procedure, the treated samples and the control are

briefly shaken and the foam height is measured immediately and then again after two minutes. Significant reductions in foaming potential are seen with the new formulation in each case.

The history of biomass exposure to surfactants, plant configuration, and the method of application will influence the results of in-plant applications. For short-term management of plant upsets, overnight shipping is available. For long-term management of surfactant induced plant instability or pass-through, two types of continuous addition programs are available.



Benefits

- Compliance with NPDES permit limits for methylene blue active substances (MBAS) or cobalt-thiocyanate active substances (CTAS).
- Reduces surfactant-related whole effluent toxicity.
- Reduces foaming.
- Potentially increases aeration efficiencies where reduced surface tension due to the presence of surfactants has negatively impacted oxygen transfer.
- Improved waste system stability and reduced frequency and severity of upsets.
- Reduced effluent organics.
- Enhanced flocculation in activated sludge.
- Higher levels of diversity of protozoa.
- Rapid recovery from load-related and toxic upsets.
- Targeted removal of specific organics.
- Reduced impact of production increases or changes in product mix on effluent quality.
- More rapid new plant, seasonal, or post-maintenance start up.

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Product Characteristics

Bacteria Count	5 billion / gram
Stability	Max loss of 1.0 log / year per Stored under recommended conditions
Moisture Content	15%
Bulk Density	0.50 - 0.61 g / cm ³
Appearance	Free-flowing Tan Powder

Available Packaging

- 25-pound pail
- 1-pound Solupak

Storage and Handling

Store in a cool, dry place. Avoid eye contact. Wash hands thoroughly with warm, soapy water after handling.

Optimum Conditions for Use

Bacteria in **SRM 1004** perform within the pH range of 6.0 - 9.0 with optimum typically near 7.0. Wastewater temperature affects activity with an approximate doubling in maximum growth rate for each 10°C (18°F) increase in temperature to an approximate upper limit of 40°C (104°F) unless otherwise indicated. Very low microbial activity can be expected below 5°C (41 F).

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