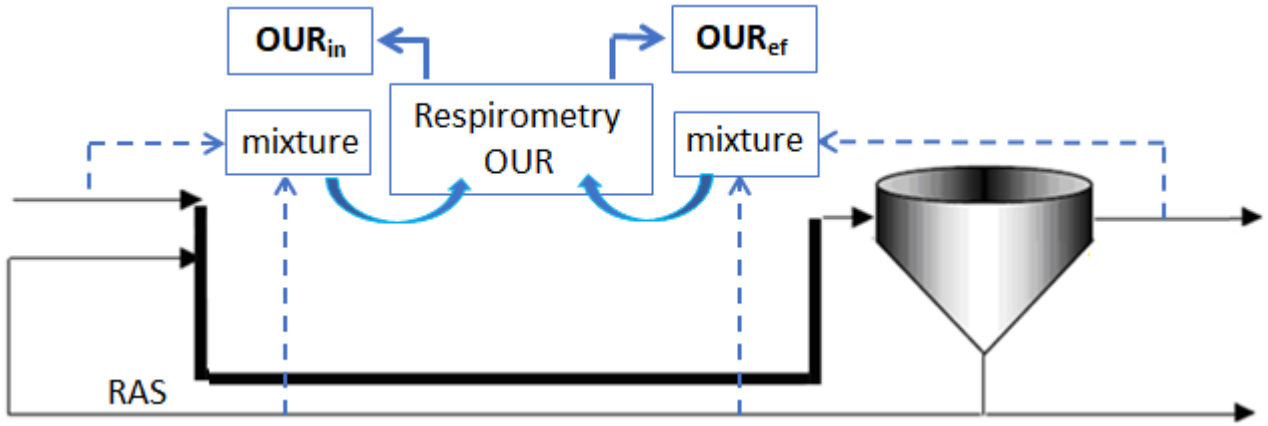
Toxicity

SURCIS

Possible toxicity already present in the biological reactor

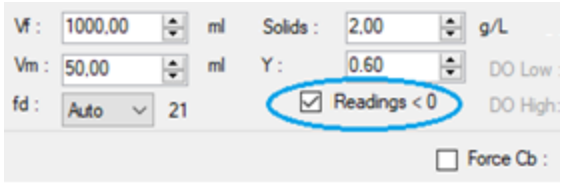


Loading Factor: **$LF = OUR_{in} / OUR_{ef}$**

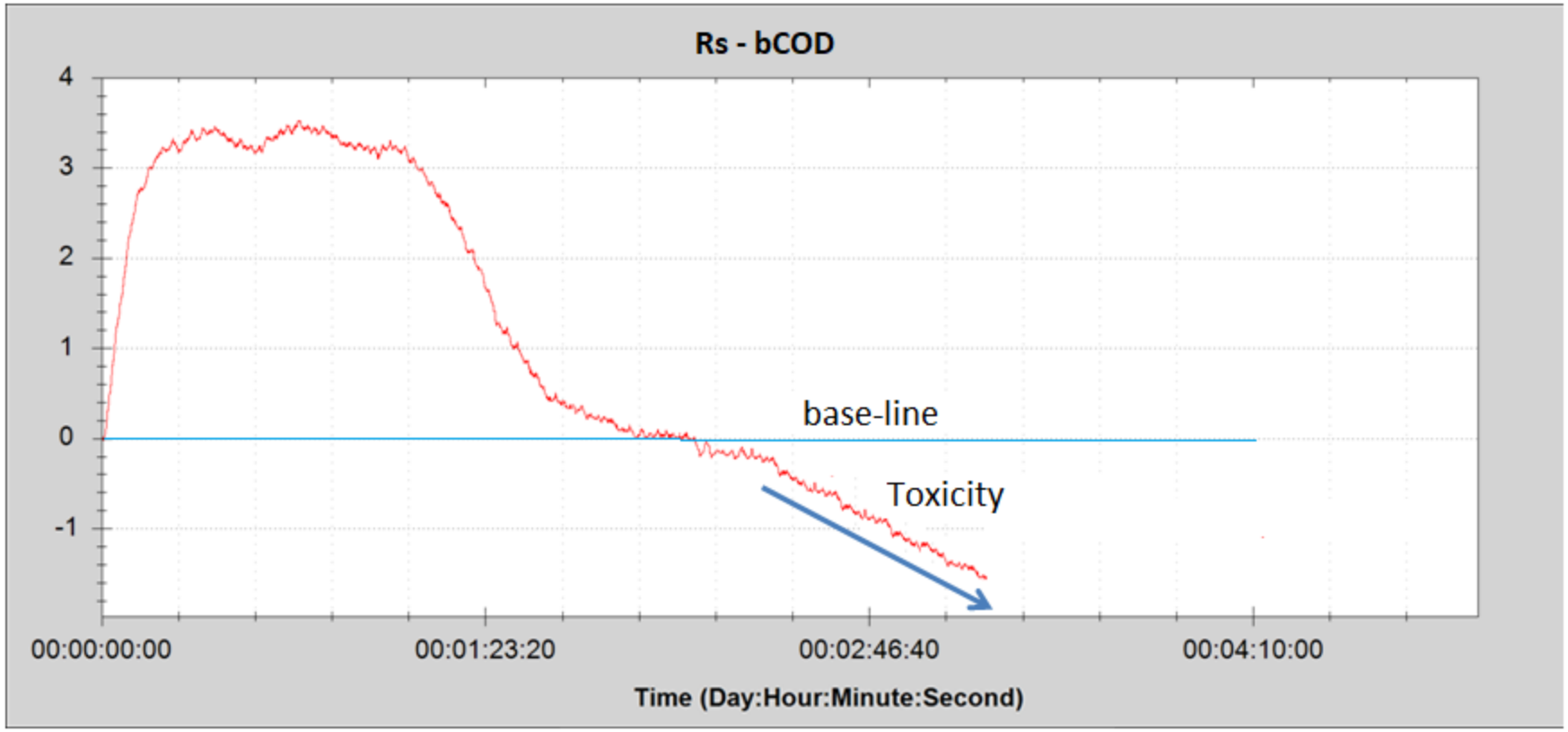
LF	Evaluation
LF < 1.3	Inhibition / Toxicity – already present in the biological reactor

Toxicity detection from a bCOD test

When the Rs exceeds the baseline and falls with a clear progressive negative slope, the test is indicating the possibility of the presence of a toxicity caused by the sample for the Vm/Vf ratio in with which the test has been performed.



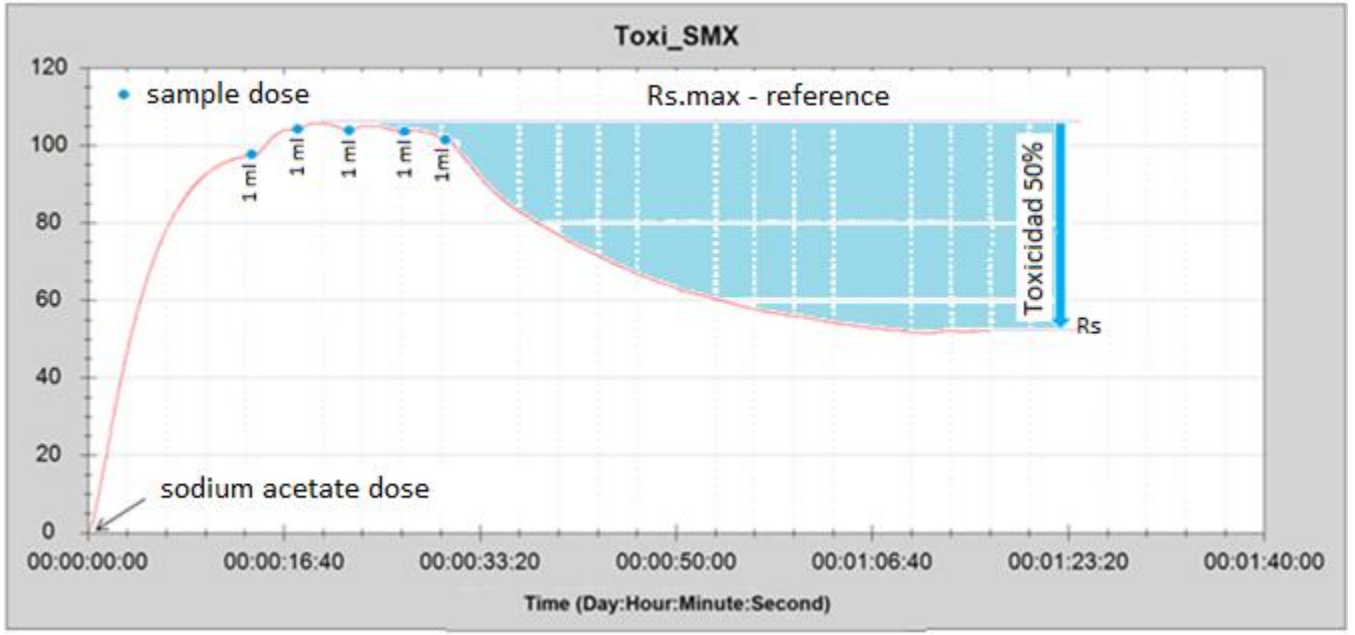
Accept ⍰ Test



Rs of the bCOD Respirogram

Fast- toxicity analysis by cumulative sample dose

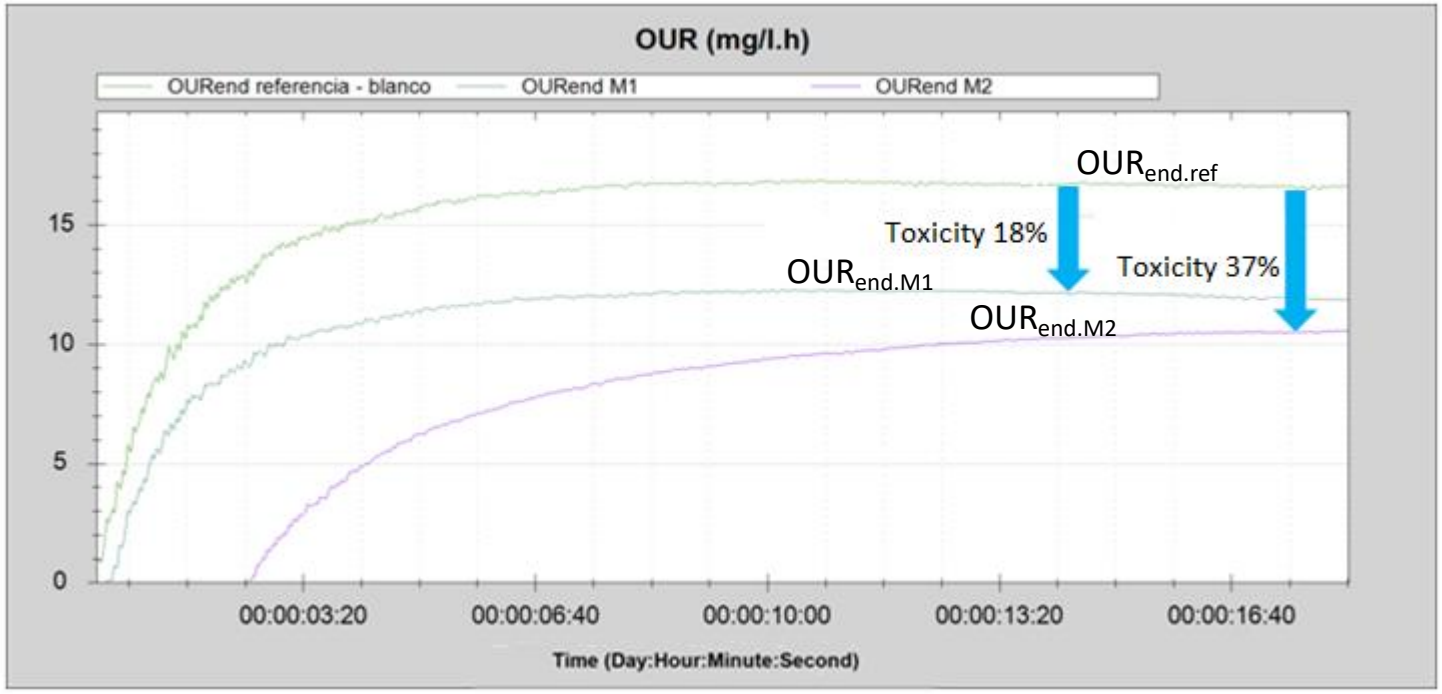
The objective on this application is to analyze a toxic effect that could occur in activated sludge by the progressive addition of wastewater sample doses over a maximum respiration rate caused by the addition of a reference substrate (sodium acetate for heterotrophic toxicity, ammonium chloride for autotrophic toxicity, or both)



Rs respirogram for toxicity by cummulative doses od sample addition

Toxicity analysis for one or several samples by means endogenous our tests evaluation

With this procedure, toxicity is assessed by comparing the endogenous OUR value ($OUR_{end.M}$) of one or several mixtures prepared with sample/s + sludge vs the reference endogenous OUR ($OUR_{end.ref}$)



OURend overlayed respirograms for toxicity assessing of two samples

Toxicity: **I** (%) = 100 * ($OUR_{end.ref}$ – $OUR_{end.M}$ / $OUR_{end.ref}$)

BM Respirometry is not limited

THERE IS ALWAYS THE POSSIBILITY OF DEVELOPING NEW APPLICATIONS