

Test No.: 943512
 Test substance : CGA 48988 T

3.5. Application

The test substance amount of each concentration (see ahead) was firstly added to water, each mixture was homogenized and directly added to the test medium (using a total volume of 114 ml water).

3.6. Test concentrations

Test substance : 106, 61.0, 37.5, 23.0 and 13.0 mg/l

21.2, 12.2, 7.5, 4.6 and 2.6 mg of the test substance were weighed and added to the test medium. The volume was adjusted to 200 ml with water and aerated for 3 hours.

Reference substance : 32.1, 10.0 and 3.2 mg/l

The sludge concentration in the test bottles was 1.68 g/l (dry weight).

3.7. Measurements

Oxygen consumption per hour in mg/liter with a ORION - Electrode Type 97-08, ORION Microprocessor Ionalyzer 901 and plotted on a recorder.

3.8. Calculations/Statistical Analysis

The inhibitions were calculated on the basis of a measured time dependent oxygen consumption of the Blank and the test solution. The EC values were determined after calculating the linear regression of the results.

The following formulas were used:

c = concentration
 i = inhibition
 n = number of values

$$A = \frac{\sum(\ln(c) * i) - (\sum(\ln(c)) * \sum(i) / (n - 1))}{\sum(\ln(c))^2 - (\sum(\ln(c)) * \sum(\ln(c)) / (n - 1))}$$

$$B = \sum(i) / (n-1) - A * \sum(\ln(c)) / (n - 1)$$

$$EC_{xx} = \text{Exp}((xx - B) / A)$$

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4. Results

4.1. Values

Calculations based on nominal concentrations lead to the following results

For the test substance:

EC50(3h): >100 mg/l

EC20(3h) : >100 mg/l

EC80(3h): >100 mg/l

For the reference substance::

EC50(3h) = 16.4 mg/l

5. Tables and Figures

Sample	Conc. [mg/l]	Consumption rate [mg/l/h]	Inhibition [%]	pH
Blank 1	0.0	45.6	3	8.2
Blank 2	0.0	48.0	-3	8.2
Reference 1	32.1	12.6	73	8.2
Reference 2	10.0	34.1	27	8.2
Reference 3	3.2	42.3	10	8.2
Test conc. 1	106.0	48.5	-4	8.3
Test conc. 2	61.0	48.0	-3	8.2
Test conc. 3	37.5	48.0	-3	8.2
Test conc. 4	23.0	50.8	-9	8.2
Test conc. 5	13.0	48.0	-3	8.2

¹The pH was measured after 3h aeration.

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Inhibitory concentration of CGA 48988 techn.

