FINAL REPORT

1886-BI-MAR-311/07

Biodegradability in Seawater
EC9500A

In accordance with OECD-Guidelines for Testing of Chemicals.
Method 306 "Biodegradability in Seawater"

Test substance:	EC9500A
Number of test substance:	1886
Test item batch:	BR3J0193B
Sponsor:	Nalco Brasil Ltda Rodovia Índio Tibiriçá, 3201 08675-000 - Suzano - SP - Brasil
Test Facility:	Bioensaios Análises e Consultoria Ambiental Ltda. Rua Palermo, 257 - Santa Isabel 94480-775 - Viamão - RS - Brasil
Test Facility Manager:	Alexandre Brandelli
Study Director:	Tiago Juliano Tasso de Souza
Quality Assurance Manager:	Ellen Martha Pritsch

STATEMENT

Study: Biodegradability in Seawater – EC9500A
Study Number: 1886-BI-MAR-311-07

I declare that the study was been completed and the objectives established in the plan of study were successfully achieved, that the data generated are valid, and that the final report reflects the procedures used and the raw data.

I declare that the study was conducted in accordance with the principles of Good Laboratory Practice - INMETRO-NIT-DICLA-028 (Sep. 2003), based on OECD-Principles on Good Laboratory Practice (1997).

I declare that GLP principles were fully met.

Viamão, 10 / Feb. / 2020 .

Everton Melo dos Santos
Study Director current
Rua Palermo, 257 - Viamão - RS - Brazil

NSF INTERNATIONAL LABORATORIES

QUALITY ASSURANCE STATEMENT

Study: Biodegradability in Seawater – EC9500A
Study Number: 1886-BI-MAR-311-07

I declare that the Final Report has been revised and reflects the Raw Data.

I declare that the Study Director signed the statement that the study was conducted under GLP principles on 01 July 2008.

I declare that audits were performed, as specified in the table below, with no deviations or non-conformities that could affect the quality of the results obtained.

Audit object	Audit date	Date reported to Study Director	Date reported to Test Facility Manager
Study plan	19 Sep. 2007	19 Sep. 2007	19 Sep. 2007
SOP	22 Nov. 2007	22 Nov. 2007	22 Nov. 2007
Study phases			
Weighing the test oil	22 Nov. 2007	22 Nov. 2007	22 Nov. 2007
Test: Temperature, preparation and agitation of the test flasks, phase separation	22 Nov. 2007	22 Nov. 2007	22 Nov. 2007
Spectrophotometric readings of test and reference solutions	22 Nov. 2007	22 Nov. 2007	22 Nov. 2007
Raw data	26 June 2008	01 July 2008	01 July 2008
Final report	26 June 2008	01 July 2008	01 July 2008

SOP: Standard Operating Procedures.

Viamão, 10 / FEB. / 2020 .

Rodrigo Garcia dos Santos
Quality Assurance Sector current
Rua Palermo, 257 - Viamão - RS - Brazil

Biodegradability in Seawater
EC9500A

RESUMO

Um estudo de biodegradabilidade com 28 dias de duração foi conduzido em laboratório para determinar a biodegradação do composto EC9500A sob condições aeróbicas e em água do mar.
O estudo foi conduzido de acordo com o OECD - Guidelines for Testing of Chemicals Method 306 “Biodegradability in Seawater”. Uma suspensão da substância-teste em água do mar foi inoculada e incubada no escuro durante 28 dias. Um padrão biodegradável (hidrogênio ftalato de potássio) e um controle da atividade endógena do inóculo (branco do inóculo) foram executados em paralelo para verificar os procedimentos de operação. Os efeitos inibitórios da substância-teste sobre o inóculo foram testados através de uma solução contendo substância-teste e substância de referência (controle de toxicidade). A degradação foi acompanhada pela determinação do oxigênio dissolvido em diversos intervalos de tempo.
Os ensaios com o padrão biodegradável e o controle de toxicidade resultaram em respectivamente 80,5% e 200,5% da demanda teórica após 14 dias. Estes resultados comprovam a atividade do inóculo utilizado e também demonstram que a substância-teste não apresentou ação inibitória sobre os microorganismos. A demanda de oxigênio a partir da substância-teste foi de 96,8% do total teórico após 14 dias. Baseado neste resultado o EC9500A pode ser classificado como um composto prontamente biodegradável.

SUMMARY

A 28 days laboratory biodegradability study was conducted to determine the ready biodegradation of EC9500A, under aerobic condition in seawater.
This study was conducted according the OECD-Guidelines for Testing of Chemicals Method 306 “Biodegradability in Seawater”.
A suspension of the test substance in sea water was inoculated and incubated in the dark for 28 days. A reference compound (potassium hydrogen phtalate) and a control of the endogenous activity of the inoculum (Blank inoculum) was run parallel to check the operation of the procedures. Also, the possible inhibitory effect of the test substance was checked by adding both test substance and reference substance (toxicity control). The degradation was followed by the determination of dissolved oxygen at frequent time intervals.
The results from reference compound and toxicity control were respectively 80.5% and 200.5% of the maximum theoretical demand in 14 days. These result prove the activity of the inoculum and that the test substance do not had inhibitory effects on microorganisms. For the test-substance, the results shown a 96.8% of the maximum theoretical demand in 14 days. EC9500A can be classified as a compound liable to ready biodegradation.

Biodegradability in Seawater
EC9500A

1. INTRODUCTION

Biodegradability in Seawater expresses the ability of an organic substance to be metabolized by natural microorganisms in the marine environment. This study provides very limited conditions for biodegradability and acclimatization to occur, so it can be assumed that a chemical that shows a positive result will biodegrade rapidly in the marine environment.
This report presents the result of the Biodegradability in Seawater study of test substance EC9500A.

1.1. Study Dates

Study plan	:	11 Oct. 2007
Experiment start	:	08 Feb. 2008
Experiment end	:	07 Mar. 2008
Final report	:	01 July 2008

2. MATERIAL AND METHODS

2.1. Test substance

Name of the test substance	:	EC9500A
Chemical name of a.i.	:	Fatty esters of ethoxylated sorbitan .....10.0 – 30.0 % Aliphatic hydrocarbon .....10.0 – 30.0 % Propylene glycol .....1.0 – 5.0 %
Common name of the active ingredient	:	Mixture of ester surfactants, solvents and dipropylene-glycol-monobutyl-ether
Test substance batch	:	BR3J0193B
Number of test substance	:	1886
Expiration of Test substance	:	21 Dec. 2008
Sample opening date	:	17 Oct. 2007
Stability	:	Stable for approximately 32 months at room temperature
Homogeneity	:	Visually homogeneous

2.2. Reference item

Chemical name	:	Hydrogen potassium phthalate
Brand	:	Cromato Produtos químicos
Batch	:	1866.09/06
Purity	:	99.8%
Expiration date	:	30 Sep. 2009

2.3. Seawater

Collection date	:	24 Jan. 2008
Collection depth	:	Surface
Appearance	:	Clear
Collection temperature	:	20 ºC
Salinity	:	31 g / L
Bacterial count	:	360 CFU / mL

2.4. Methodology

OECD - Method 306 (1992).
The summary of the test conditions is shown below.

Inoculum .....Bacteria from sea water
Test chamber ..... 300 mL BOD bottles
Aeration system ..... Closed bottle
Luminosity .....Absence of light
Temperature ..... 20 ± 2º C
Exposure Duration .....28 days
Answer ..... Dissolved oxygen consumption
O_2 measurement system.....Oximeter

2.4.1. Half-test

The mineral medium used for dilution is prepared by adding 1 mL of each of the nutrient solutions described below to each 1 L of sea water and aerated for 20 minutes before the test starts:

- pH 7.2 phosphate nutrient solution:

KH_2PO_4	*8.50 g / L*
K_2HPO_4	*21.75 g / L*
$Na_2HPO_4 \cdot 2H_2O$	*33.40 g / L*
NH_4Cl	*0.50 g / L*

- Magnesium sulfate nutrient solution:

$MgSO_4 \cdot 7H_2O$ *22.50 g / L*

- Ferric chloride nutrient solution:

$FeCl_3 \cdot 6H_2O$ *0.25 g / L*

- Calcium chloride nutrient solution:

$CaCl_2 \cdot 2H_2O$ *36.30 g / L*

2.4.2. Test organisms

The source of the test organisms is sea water, which already has the necessary inoculum to perform the test.

2.4.3. Preparation of Test Solutions

The test is carried out with the following test concentrations:

Treatment A - Inoculum white: half-test

Treatment B - Control procedure: potassium hydrogen phthalate
Concentration: 7.0 mg / L
Theoretical oxygen demand: 7.9 mg O_2 / L

Treatment C - Test suspension: Test substance
Concentration: 3.4 mg / L EC9500A / L
Theoretical oxygen demand: 6.8 mg O_2 / L

Treatment D - Toxicity control: hydrogen potassium phthalate and test substance.
Concentration: 3.5 mg / L of hydrogen potassium phthalate
3.2 mg / L EC9500A
Theoretical oxygen demand: 6.5 mg O_2 / L (referring to potassium phthalate hydrogen)

2.4.3. Procedure

The test solutions are siphoned into 300 mL BOD bottles and kept at 20 ± 1° C in the absence of light. Dissolved oxygen readings are taken every 7 days in two vials for treatments A, B and C and 1 vial for treatment D.

3. RESULTS

The percentage of biodegradation for each time period is calculated using the expression:

$$\% \ D_t = \frac{B_t - C_t}{DO_t} x100$$

Where:
% D_t - Percentage of degradation at time t (days)
B_t - Dissolved oxygen concentration (mg O_2 / L) of the blank test at time *t* (days)
C_t - Dissolved oxygen concentration (mg O_2 / L) of the test with standard substance or test at time t (days)
DO_t - Theoretical oxygen demand (mg O_2 / L) of the substance tested.

To be considered biodegradable, the test substance and the reference substance must achieve 60% degradation of the theoretical oxygen demand (DO_t) in a short time and not exceeding a total of 28 days.
The toxicity control shows the occurrence or not of inhibitory effects.
The test results are presented in Annex I.

4. CONCLUSION

According to the results obtained, test substance EC9500A can be classified as **readily biodegradable**, as it reached a degree of degradation of 96.8% in 14 days.

5. ARCHIVES

The Study Plan, Raw Data and Final Report were archived for, at least, the next five years and the test item for, at least, 60 days after the conclusion of all studies at Bioensaios Análises e Consultoria Ambiental Ltda.

6. REFERENCES

OECD Guideline for Testing of Chemicals (1992). Method 306 "Biodegradability in Seawater".

Viamão, 10 / Feb. / 2020 .

Everton Melo dos Santos
Study Director current
Rua Palermo, 257 - Viamão - RS - Brazil

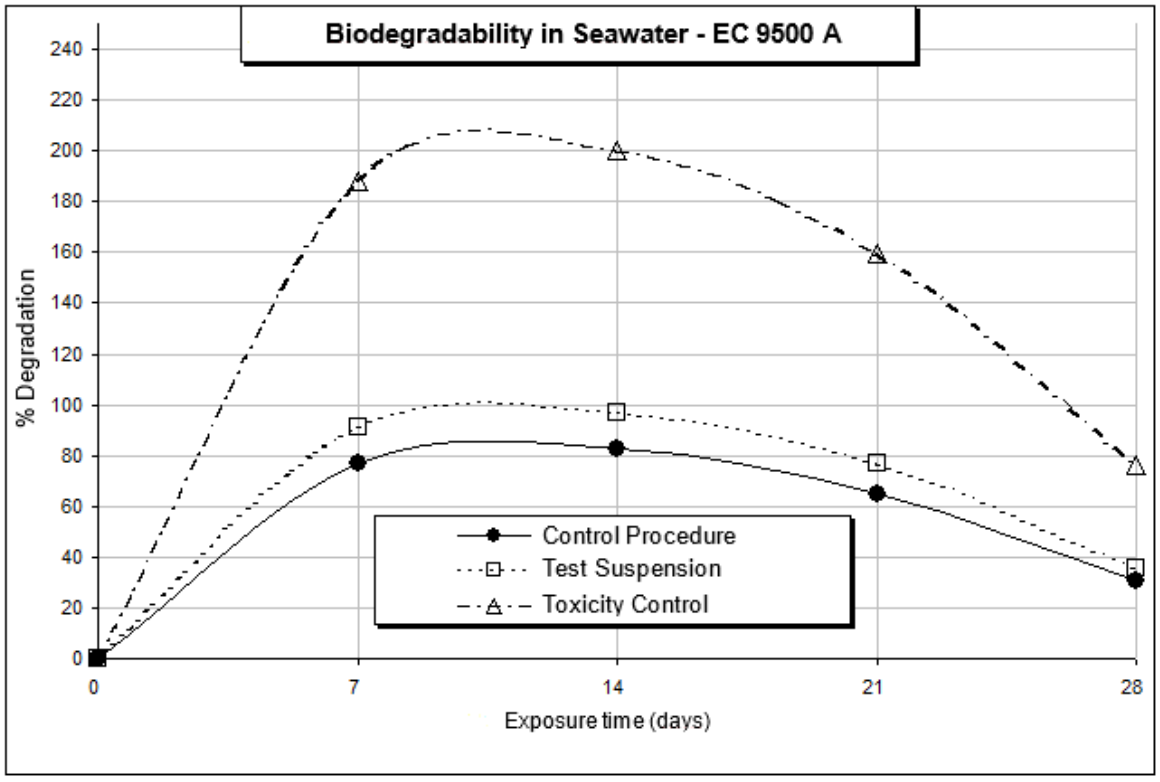
ANNEX I

Test Results
Determinations of Dissolved Oxygen (mg O_2 / L)

Treatment		Exposure time				
		Day 0	Day 7	Day 14	Day 20	Day 28
		08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Inoculum White	A1	7.08	6.44	6.89	5.68	3.25
	A2	7.07	6.38	6.83	5.32	1.78
	Mean	**7.08**	**6.41**	**6.86**	**5.50**	**2.52**
Control Procedure	B1	7.00	0.29	0.30	0.34	0.09
	B2	7.12	0.25	0.26	0.32	0.08
	Mean	**7.08**	**0.27**	**0.28**	**0.33**	**0.09**
Test Suspension	C1	7.04	0.26	0.28	0.28	0.10
	C2	7.03	0.20	0.28	0.29	0.06
	Mean	**7.08**	**0.23**	**0.28**	**0.29**	**0.08**
Toxicity Control	D	7.18	0.26	0.30	0.29	0.09

Percentage of Degradation (%)

Treatment	Exposure time				
	Day 0	Day 7	Day 14	Day 20	Day 28
	08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Control Procedure	0.0	76.9	82.5	64.8	30.5
Test Suspension	0.0	90.9	96.8	76.7	35.8
Toxicity Control	0.0	188.1	200.5	159.9	76.1



Amendment No. 001 to the Final Report 1886-BIMAR-311-07
"Biodegradability in Seawater - EC9500A"
Study: 1886-BIMAR-311-07 of 01 July 2008

CHANGE 01: Item "2. MATERIAL AND METHODS"

Previous to the change: Theoretical Oxygen Demands (DTO) of the test substance and reference substance were not provided

After the change:

2.1. Test substance

Name of the test substance	:	EC9500A
Chemical name of a.i.	:	Fatty esters of ethoxylated sorbitan .....10.0 – 30.0 % Aliphatic hydrocarbon .....10.0 – 30.0 % Propylene glycol .....1.0 – 5.0 %
Common name of the active ingredient	:	Mixture of ester surfactants, solvents and dipropylene-glycol-monobutyl-ether
Test substance batch	:	BR3J0193B
Number of test substance	:	1886
Expiration of Test substance	:	21 Dec. 2008
Sample opening date	:	17 Oct. 2007
Stability	:	Stable for approximately 32 months at room temperature
Homogeneity	:	Visually homogeneous
Theoretical oxygen demand	:	1.99 mg O_2 / mg (obtained from the sample COD)

2.2. Reference item

Chemical name	:	Hydrogen potassium phthalate
Brand	:	Cromato Produtos químicos
Batch	:	1866.09/06
Purity	:	99,8%
Expiration date	:	30 Sep. 2009
Theoretical oxygen demand	:	1.136 mg O_2 / mg

Reason for change: Inform a fundamental parameter for calculating the results and concluding the study.

CHANGE 02: Item "2.4.3. Preparation of Test Solutions"

Previous to the change:

Treatment D - Toxicity control: hydrogen potassium phthalate and test substance.
Concentration: 3.5 mg/L of hydrogen potassium phthalate
3.2 mg/L EC9500A
Theoretical oxygen demand: 6.5 mg O_2/L (referring to potassium phthalate hydrogen)

After the change:

Treatment D - Toxicity control: hydrogen potassium phthalate and test substance.
Concentration: 3.5 mg/L of hydrogen potassium phthalate
3.2 mg/L EC9500A
Theoretical oxygen demand: 4.0 mg O_2 / L (referring to potassium phthalate hydrogen)

Reason for change: Correct the potassium hydrogen phthalate concentration value and the theoretical oxygen demand value.

CHANGE 03: Item "ANNEX I - Test Results".

Previous to the change: Annex I presented two tables with the results of dissolved oxygen and the results in percentage of degradation.

After the change: A third table has been added with the results of specific oxygen demand (see below).

Reason for change: Provide partial data of the biodegradability calculation step

GLP COMPLIANCE STATEMENT

I declare that the Amendment to the Final Report reflects the Raw Data obtained. I declare that the Study for the elaboration of the Amendment was conducted in accordance with the principles of Good Laboratory Practice - INMETRO-NIT-DICLA-028 (Sep. 2003), based on OECD-Principles on Good Laboratory Practice (1997).

Everton Melo dos Santos
Study Director current

10, Feb 2020
Date

QUALITY ASSURANCE STATEMENT

I declare that the Amendment to the Final Report has been revised and reflects the Raw Data and no deviations or nonconformities were observed that could affect the quality of the results.

Rodrigo Garcia dos Santos
Quality Assurance Sector current

10 FEB. 2020
Date

ANNEX I
Test Results

Determinations of Dissolved Oxygen (mg O_2/L)

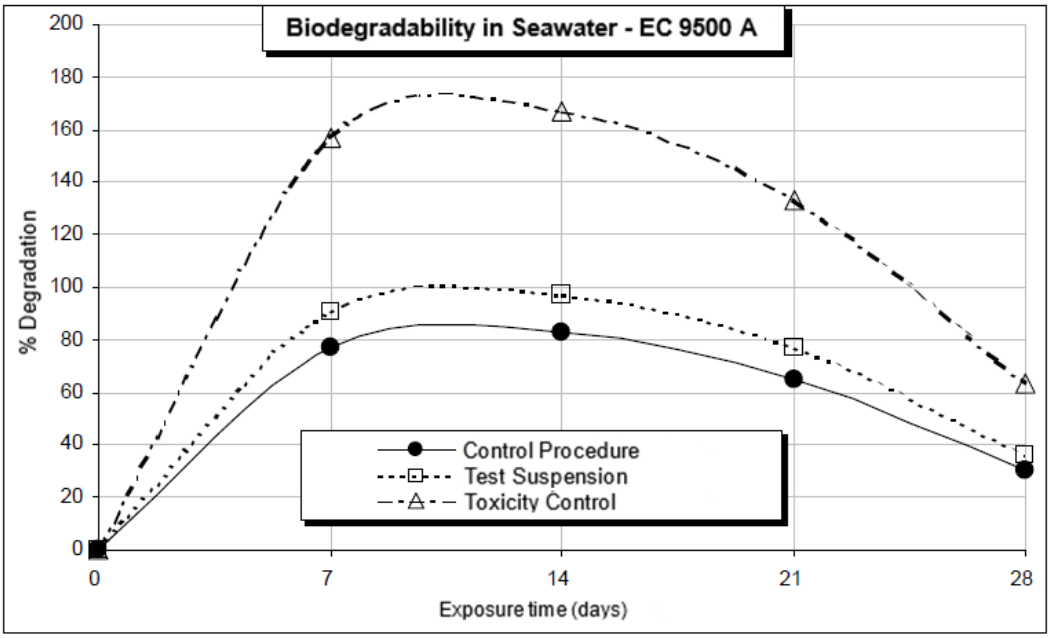
Treatment		Exposure time				
		Day 0	Day 7	Day 14	Day 20	Day 28
		08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Inoculum White	A1	7.08	6.44	6.89	5.68	3.25
	A2	7.07	6.38	6.83	5.32	1.78
	Mean	**7.08**	**6.41**	**6.86**	**5.50**	**2.52**
Control Procedure	B1	7.00	0.29	0.30	0.34	0.09
	B2	7.12	0.25	0.26	0.32	0.08
	Mean	**7.06**	**0.27**	**0.28**	**0.33**	**0.09**
Test Suspension	C1	7.04	0.26	0.28	0.28	0.10
	C2	7.03	0.20	0.28	0.29	0.06
	Mean	**7.04**	**0.23**	**0.28**	**0.29**	**0.08**
Toxicity Control	D	7.18	0.26	0.30	0.29	0.09

Biological oxygen demand (mg O_2/L)

Treatment	Exposure time				
	Day 0	Day 7	Day 14	Day 20	Day 28
	08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Control Procedure	0.00	6.14	6.58	5.17	2.43
Test Suspension	0.00	6.18	6.58	5.22	2.44
Toxicity Control	-0.03	6.26	6.67	5.32	2.53

Percentage of Degradation (%)

Treatment	Exposure time				
	Day 0	Day 7	Day 14	Day 20	Day 28
	08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Control Procedure	0.0	76.9	82.5	64.8	30.5
Test Suspension	0.0	90.9	96.8	76.7	35.8
Toxicity Control	0.0	156.8	167.1	133.2	63.4



Amendment No. 002 to the Final Report 1886-BI-MAR-311-07 "Biodegradability in Seawater - EC9500A" Study: 1886-BI-MAR-311-07 of 01 July 2008

CHANGE 01: Item "STATEMENT"

Previous to the change:

Study: Biodegradability in Seawater – EC9500A
Study Number: 1886-BI-MAR-311-07

I declare that the study was been completed and the objectives established in the plan of study were successfully achieved, that the data generated are valid, and that the final report reflects the procedures used and the raw data.

I declare that the study was conducted in accordance with the principles of Good Laboratory Practice - INMETRO-NIT-DICLA-028 (Sep. 2003), based on OECD-Principles on Good Laboratory Practice (1997).

I declare that GLP principles were fully met.

After the change:

Study: Biodegradability in Seawater – EC9500A
Study Number: 1886-BI-MAR-311-07

I declare that the study was been completed and the objectives established in the plan of study were successfully achieved, that the data generated are valid, and that the final report reflects the procedures used and the raw data.

I declare that the study was conducted in accordance with the principles of Good Laboratory Practice - INMETRO-NIT-DICLA-028 (Sep. 2003), based on OECD-Principles on Good Laboratory Practice (1997).

I declare that the GLP principles were partially complied with, as a test substance analysis certificate was not made available, not complying with item 6.2.2 of NIT-DICLA-028.

Reason for change: Correctly inform the full compliance with the GLP principles in the Study.

GLP COMPLIANCE STATEMENT

I declare that the Amendment to the Final Report reflects the Raw Data obtained. I declare that the Study for the elaboration of the Amendment was conducted in accordance with the principles of Good Laboratory Practice - INMETRO-NIT-DICLA-034 (Sep. 2003) and INMETRO-NIT-DICLA-035 to 041 (Dec. 2007), based on OECD-Principles on Good Laboratory Practice (1997).

10 Feb. 2020

Everton Melo dos Santos — Date
Study Director current

QUALITY ASSURANCE STATEMENT

I declare that the Amendment to the Final Report has been revised and reflects the Raw Data and no deviations or nonconformities were observed that could affect the quality of the results.

Rodrigo dos Santos 10 FEB 2020

Rodrigo Garcia dos Santos — Date
Quality Assurance Sector current

Amendment No. 003 to the Final Report 1886-BIMAR-311-07
"Biodegradability in Seawater - EC9500A"
Study: 1886-BIMAR-311-07 of 01 July 2008

CHANGE 01: This amendment renders without effect the amendment No. 001 to the Final Report 1866-BIMAR-311-07

CHANGE 02: Item "2. MATERIAL AND METHODS"

Previous to the change: Theoretical Oxygen Demands (DTO) of the test substance and reference substance were not provided

After the change:

2.1. Test substance

Name of the test substance	:	EC9500A
Chemical name of a.i.	:	Fatty esters of ethoxylated sorbitan .....10.0 – 30.0 % Aliphatic hydrocarbon .....10.0 – 30.0 % Propylene glycol .....1.0 – 5.0 %
Common name of the active ingredient	:	Mixture of ester surfactants, solvents and dipropylene-glycol-monobutyl-ether
Test substance batch	:	BR3J0193B
Number of test substance	:	1886
Expiration of Test substance	:	21 Dec. 2008
Sample opening date	:	17 Oct. 2007
Stability	:	Stable for approximately 32 months at room temperature
Homogeneity	:	Visually homogeneous
Theoretical oxygen demand	**:**	**1.99 mg O_2 / mg (obtained from the sample DQO)**

2.2. Reference item

Chemical name	:	Hydrogen potassium phthalate
Brand	:	Cromato Produtos químicos
Batch	:	1866.09/06
Purity	:	99.8%
Expiration date	:	30 Sep. 2009
Theoretical oxygen demand	**:**	**1.136 mg O_2 / mg**

Reason for change: Inform a fundamental parameter for calculating the results and concluding the study.

CHANGE 03: Item "2.4.3. Preparation of Test Solutions"

Previous to the change:

Treatment B - Control procedure: potassium hydrogen phthalate
Concentration: 7.0 mg / L
Theoretical oxygen demand: 7.9 mg O_2 / L

Treatment C - Test suspension: Test substance
Concentration: 3.4 mg / L EC9500A / L
Theoretical oxygen demand: 6.8 mg O_2 / L

Treatment D - Toxicity control: hydrogen potassium phthalate and test substance.
Concentration: 3.5 mg / L of hydrogen potassium phthalate
3.2 mg / L EC9500A
Theoretical oxygen demand: 6.5 mg O_2 / L (referring to potassium phthalate hydrogen)

After the change:

Treatment B - Control procedure: potassium hydrogen phthalate
Concentration: 7.0 mg / L
Theoretical oxygen demand: **8.0** mg O_2 / L

Treatment C - Test suspension: Test substance
Concentration: 3.4 mg / L EC9500A / L
Theoretical oxygen demand: 6.8 mg O_2 / L

Treatment D - Toxicity control: hydrogen potassium phthalate and test substance.
Concentration: **2.1** mg / L of hydrogen potassium phthalate
2.0 mg / L EC9500A
Theoretical oxygen demand: 6.5 mg O_2 / L (referring to potassium phthalate hydrogen)

Reason for change: Correct the value of the theoretical oxygen demand for potassium hydrogen phthalate in the control procedure (rounding error) and the value of the concentrations of potassium phthalate hydrogen and test substance in the toxicity control (typing error).

CHANGE 04: Item "ANNEX I - Test Results".

Previous to the change: Annex I presented two tables with the results of dissolved oxygen and the results in percentage of degradation.

After the change: Tables were added with the results of biochemical oxygen demands, specific oxygen demands, and expected oxygen demands for the control of toxicity according to the biochemical oxygen demand of the test substance and the reference substance (see Annex I).

Reason for change: Provide partial data of the biodegradability calculation step

GLP COMPLIANCE STATEMENT

I declare that the Amendment to the Final Report reflects the Raw Data obtained. I declare that the Study for the elaboration of the Amendment was conducted in accordance with the principles of Good Laboratory Practice - INMETRO-NIT-DICLA-028 (Sep. 2003), based on OECD-Principles on Good Laboratory Practice (1997).

10, Feb. 2020

Everton Melo dos Santos
Study Director current

Date

QUALITY ASSURANCE STATEMENT

I declare that the Amendment to the Final Report has been revised and reflects the Raw Data and no deviations or nonconformities were observed that could affect the quality of the results.

10 FEB. 2020

Rodrigo Garcia dos Santos
Quality Assurance Sector current

Date

ANNEX I
Test Results

Determinations of Dissolved Oxygen (mg O_2 / L)

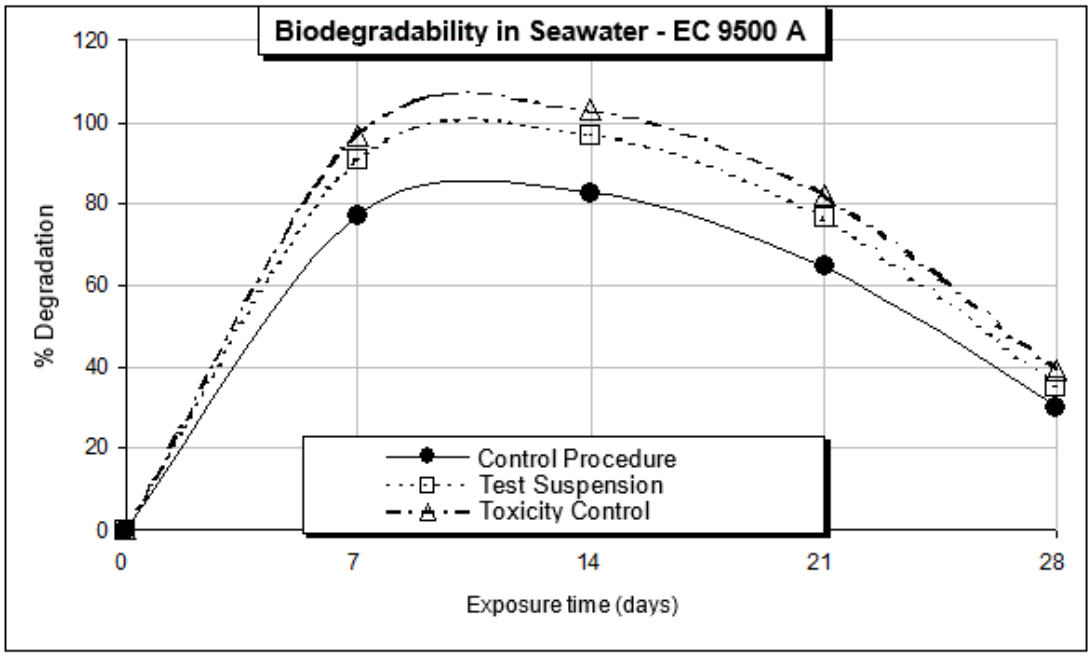
Treatment		Exposure time				
		Day 0	Day 7	Day 14	Day 20	Day 28
		08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Inoculum White	A1	7.08	6.44	6.89	5.68	3.25
	A2	7.07	6.38	6.83	5.32	1.78
	Mean	7.08	6.41	6.86	5.50	2.52
Control Procedure	B1	7.00	0.29	0.30	0.34	0.09
	B2	7.12	0.25	0.26	0.32	0.08
	Mean	7.06	0.27	0.28	0.33	0.09
Test Suspension	C1	7.04	0.26	0.28	0.28	0.10
	C2	7.03	0.20	0.28	0.29	0.06
	Mean	7.04	0.23	0.28	0.29	0.08
Toxicity Control	D	7.18	0.26	0.30	0.29	0.09

Biological oxygen demand (mg O_2 / L)

Treatment	Exposure time				
	Day 0	Day 7	Day 14	Day 20	Day 28
	08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Control Procedure	0.00	6.13	6.57	5.16	2.42
Test Suspension	0.00	6.14	6.54	5.18	2.40
Toxicity Control	0.00	6.26	6.67	5.32	2.53

Percentage of Degradation (%)

Treatment	Exposure time				
	Day 0	Day 7	Day 14	Day 20	Day 28
	08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Control Procedure	0,0	76.9	82.4	64.7	30.3
Test Suspension	0,0	90.7	96.7	76.5	35.4
Toxicity Control	0,0	96.7	103.0	82.2	39.1



Specific Biochemical Oxygen Demand (mg O_2 / mg):

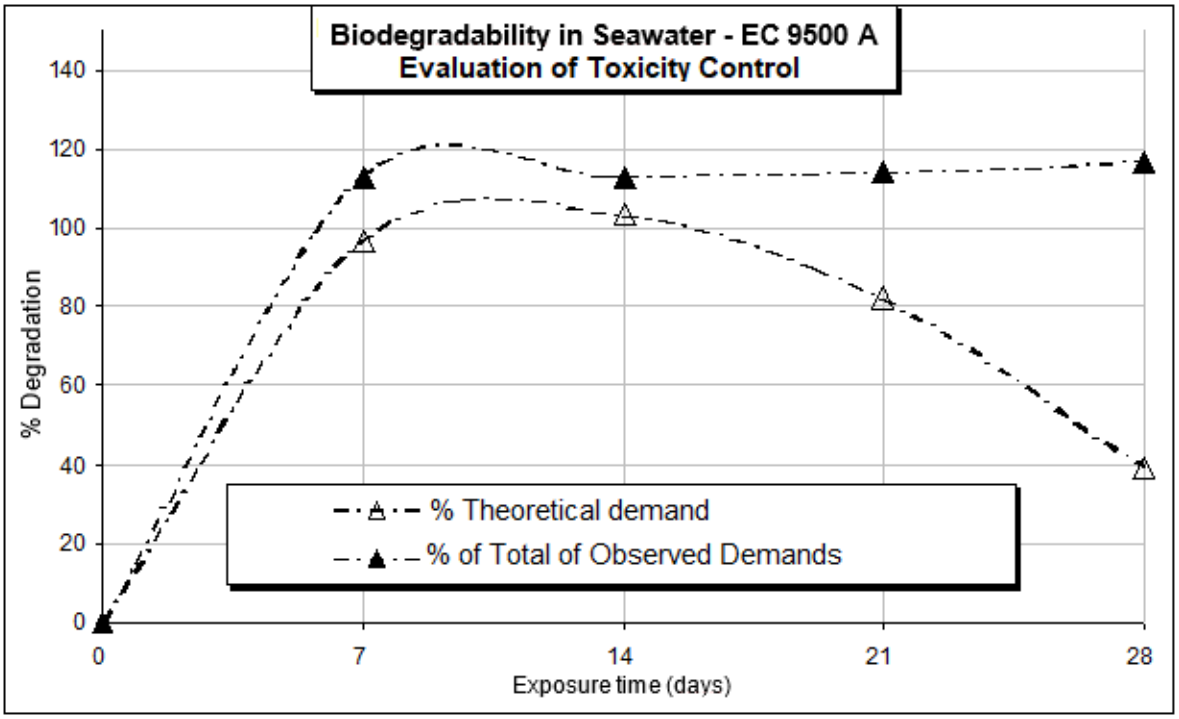
Treatment	Exposure time				
	Day 0	Day 7	Day 14	Day 20	Day 28
	08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Reference Substance	0.00	0.87	0.94	0.74	0.34
Test Substance	0.00	1.81	1.92	1.52	0.70

Observed Biochemical Demand (DBO_o) for Toxicity control depending on the demands observed in the separate solutions (mg O_2 / L):

Treatment	Exposure time				
	Day 0	Day 7	Day 14	Day 20	Day 28
	08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
Reference Substance	0.0	1.9	2.0	1.6	0.7
Test Substance	0.0	3.7	3.9	3.1	1.4
Total	0.0	5.5	5.9	4.7	2.2

Degradation observed in Toxicity Control due to Observed Biochemical Oxygen Demand (DBOo) and Theoretical Oxygen Demand (%)

Treatment	Exposure time				
	Day 0	Day 7	Day 14	Day 20	Day 28
	08 Feb.2008	15 Feb.2008	22 Feb.2008	29 Feb.2008	07 March 2008
DTO Control	6.5	6.5	6.5	6.5	6.5
DBO_o Control	0.0	5.5	5.9	4.7	2.2
DBO	0.00	6.26	6.67	5.32	2.53
%DTO	0.0	96.7	103.0	82.2	39.1
$\%DBO_o$	0.0	113.0	112.8	114.0	116.7



Thus, both in relation to the sum of the DTO of the test and reference substances present in the toxicity control, and in relation to the sum of the DBO observed for the test and reference substances separately, no toxicity of the test substance was observed, as this reached up to 102.9% degradation in relation to DTO and up to 116.7% degradation in relation to the sum of DBO.