

## Test Report

### Aerobic Ready Biodegradability

Manometric Respirometry according to OECD 301 F

Report number	: 15/033/0167A	Customer	: Guard KG
Date received	: 2015-02-09	Address	: Geisbergweg 10b
Test report	: 3 pages		65205 Wiesbaden
Appendices	: Test report no. 1802 - 15 (subcontractor)		
Sampling	: customer	Study director	: Dipl. Biol. R. Kruspe
Subcontractor	: Analysen Service GmbH Umwelt- und Öllabor Leipzig		
Remarks	: Abiotic elimination was not considered.		

**Test item** : Remover G

**Characteristics** : colourless viscous liquid, pH-value = 4,6 (19,9°C)  
 theor. BOD-value (theor. biological oxygen demand) = 1,22 g/g

**Test conditions** : test conduction at 21°C, pH-value had been controlled

Conc. of test substance

batch A	: 62,7 mg/l	- equivalent to	76,8 mg/l oxygen demand
batch B	: 50,7 mg/l	- equivalent to	62,1 mg/l oxygen demand
batch C	: 53,7 mg/l	- equivalent to	65,8 mg/l oxygen demand

Addition of an emulsifier : none

Reference substance : sodium acetate theor. BOD (derived from structure formula) = 0,47 g/g O<sub>2</sub>

Inoculum - origin : sewage effluent of treatment plant "Ottendorf-Okrilla"

- concentr. : 10 ml/l conditioning: washed, homogenised

analysed values	Start	End	Change	Oxygen equivalent
Nitrate-N	: 0,01 mg/l	0,95 mg/l	0,93 mg/l	4,27 mg/l
Nitrite-N	: 0,014 mg/l	0,189 mg/l	0,18 mg/l	0,60 mg/l
The oxygen demand by nitrification in the blank has to be subtracted:				4,57 mg/l
<b>The remaining oxygen demand by nitrification:</b>				<b>0,30 mg/l</b>

The oxygen demand by nitrification has to be added to the theor. BOD-value to get the 100% level.

### Results

The total elimination of the test substance in the batches amounted to 100 % after 28 days.

The examined test substance was biological degradable in accordance with the requirements of the Detergents Regulation EG/648/2004 (degradation > 60% within 28 d).

The examined test substance was biological degradable in accordance to OECD 301F (degradation > 60% at the end of the 10-day-window). The degradation at the end of the 10-day-window amounted to 71 %.

#### Validity of the test:

The differences between the batches at the end of the test didn't exceed 20 %.

The degree of degradation of the reference substance amounted to 97 % after 14 days (criterium of validity).

Therefore the test is valid.

The test had been carried out from 26-03-2015 to 23-04-2015

Examiner: Dipl. Biol. G. Pötschke

IDUS GmbH, Ottendorf-Okrilla, 27-04-2015

  
 \_\_\_\_\_  
 Dipl. Biol. R. Kruspe, principal investigator



All statements made here are related exclusively to the test item.

This test report is allowed to be duplicated in extracts only with a written permission of IDUS GmbH.

The error limits given in the method are in the accepted range.

Test methods signed with a star (\*) are not accredited.

**Test Report - Continuation**

Manometric Respirometry according to OECD 301 F

Report-No. : 15/033/0167A Customer : Guard KG

Results : degree of degradation [%] at a theor. BOD of: 1,22 g/g O2

date	d	batch A	batch B	batch C	reference
26.03.2015	0	0%	0%	0%	0%
27.03.2015	1	6%	1%	1%	56%
28.03.2015	2	11%	10%	10%	62%
29.03.2015	3	18%	19%	17%	77%
30.03.2015	4	22%	24%	23%	82%
31.03.2015	5	34%	32%	33%	91%
01.04.2015	6	42%	39%	43%	97%
02.04.2015	7	49%	48%	55%	97%
03.04.2015	8	56%	56%	62%	100%
04.04.2015	9	61%	62%	68%	99%
05.04.2015	10	66%	68%	74%	99%
06.04.2015	11	70%	71%	73%	97%
07.04.2015	12	70%	71%	73%	97%
08.04.2015	13	74%	72%	74%	94%
09.04.2015	14	78%	74%	76%	97%
10.04.2015	15	81%	74%	76%	97%
11.04.2015	16	83%	77%	82%	97%
12.04.2015	17	83%	80%	82%	97%
13.04.2015	18	83%	80%	82%	97%
14.04.2015	19	87%	89%	90%	100%
15.04.2015	20	88%	93%	100%	97%
16.04.2015	21	91%	97%	100%	97%
17.04.2015	22	94%	100%	100%	97%
18.04.2015	23	98%	99%	100%	96%
19.04.2015	24	98%	99%	100%	96%
20.04.2015	25	98%	99%	100%	96%
21.04.2015	26	100%	97%	98%	99%
22.04.2015	27	100%	101%	101%	99%
*23.04.2015	28	99%	100%	100%	97%

**Oxygen demand in test batches [mg/l]**

date	blank	batch A	batch B	batch C	reference
26.03.15	0	0	0	0	0
27.03.15	2	6	2	2	20
28.03.15	2	10	8	8	22
29.03.15	3	16	14	14	28
30.03.15	3	20	18	18	30
31.03.15	4	30	24	26	34
01.04.15	4	36	28	32	36
02.04.15	4	42	34	40	36
03.04.15	5	48	40	46	38
04.04.15	6	52	44	50	38
05.04.15	6	56	48	54	38
06.04.15	6	60	50	54	38
07.04.15	6	60	50	54	38
08.04.15	7	64	52	56	38
09.04.15	8	68	54	58	40
10.04.15	8	70	54	58	40
11.04.15	8	72	56	62	40
12.04.15	8	72	58	62	40
13.04.15	8	72	58	62	40
14.04.15	9	76	64	68	42
15.04.15	9	78	68	76	42
16.04.15	9	80	70	76	42
17.04.15	9	82	72	76	42
18.04.15	10	86	72	76	42
19.04.15	10	86	72	76	42
20.04.15	10	86	72	76	42
21.04.15	11	88	72	76	44
22.04.15	11	88	74	78	44
23.04.15	12	88	74	78	44

**Test Report - Continuation**  
 Manometric Respirometry according to OECD 301 F

Report-No. : 15/033/0167A Customer : Guard KG

**Diagram**

