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Test Report

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1 Sample Information

Sample name	Dryflex 2 with activator
Sample reception	28/11/2018
Sample no.	392-2018-00396601
Analysis period	07/12/2018 - 10/01/2018

2 Performed Tests

Type of Analysis	Regulation of protocol
TOC	KTW Guideline
Colour, turbidity and foaming	KTW Guideline
Specific migration	KTW Guideline
Sensory evaluation (TON/TFN)	KTW Guideline

Full details based on the testing are available in the following pages.

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3 Applied Test Methods

3.1 General Test References

Method	Parameter	Analysis principle	LOD	Um(%)
EN 12873-1 (2014)	Migration	Exposure to water	-	-
DS/EN 1484 (calculation)	TOC	Sum of NVOC and VOC	-	33 %
Internal Method *	Colour, turbidity and foaming	Visual examination on migration water compared to reference water	-	-
71M549013 *	Acrylic acid	LC-MS	0.05 mg/L	20%
71M549200 *	Triethanolamine	UHPLC-QTOF-MS	0.001 mg/L	20%
EN 1420:2016	Migration	Exposure to water	-	-
DS/EN 1622	TON (smell) and TFN (taste)	Evaluation of TON and TFN based on the principle unforced choice, paired test, full method.	-	-

U_m (%): The expanded uncertainty U_m(%) equals 2 x RSD%. For further information please visit www.eurofins.dk/uncertainty

LOD Limit of detection

* Not accredited analysis

Analysed by Eurofins Miljø A/S accredited by Danak under Reg. no. 168.

3.2 Test Conditions

The sample is migrated according to EN 12873-1 for the chemical testing methods and EN 1420 for the sensory testing. The sample is rinsed by flushing with tap-water for 1 hour, stagnated with test water for 24 hours and flushed again with tap water for 1 hour, and finally rinsed with test water.
Migration is performed with demineralised water for 3x72 hours at 23°C for the chemical testing methods and with tap water for the evaluation of smell and taste.
Migration according to EN 12873-1: A/V = 5.2 dm^{-1}
Migration according to EN 1420: A/V = 5.2 dm^{-1}
The migration was performed with the actual surface area-to-volume ratio.
The water from the 3rd migration was tested for the parameters mentioned above based on the Toxicological evaluation with ref no. 392-2018-00274300 Dated August 22nd 2018.

4 Results

Table 1: Calculated results for c_{Tap} based on test results of the migration according to EN 12873-1. Specification of the results of smell and taste are given in section 5.

Parameter	CAS number	c_{Tap} 3rd migration	Limit value
TOC	-	0.028 mg/L	0.5 mg/L
Acrylic acid	79-10-7	< 0.00013 mg/L	0.3 mg/L
Triethanolamine	102-71-6	0.021 mg/L	0.0025 mg/L

< Means less than the limit of detection

Parameter	Result 1st migration	Result 2nd migration	Result 3rd migration
Colour, turbidity and foaming	Foaming detected	Foaming detected	Foaming detected

The full test results for compounds given in the toxicological evaluation are summarised in appendices.

The analytical results of smell and taste are presented in section 5.

5 Sensory evaluation

Table 2: Results of sensory evaluation of smell (TON) and taste (TFN).

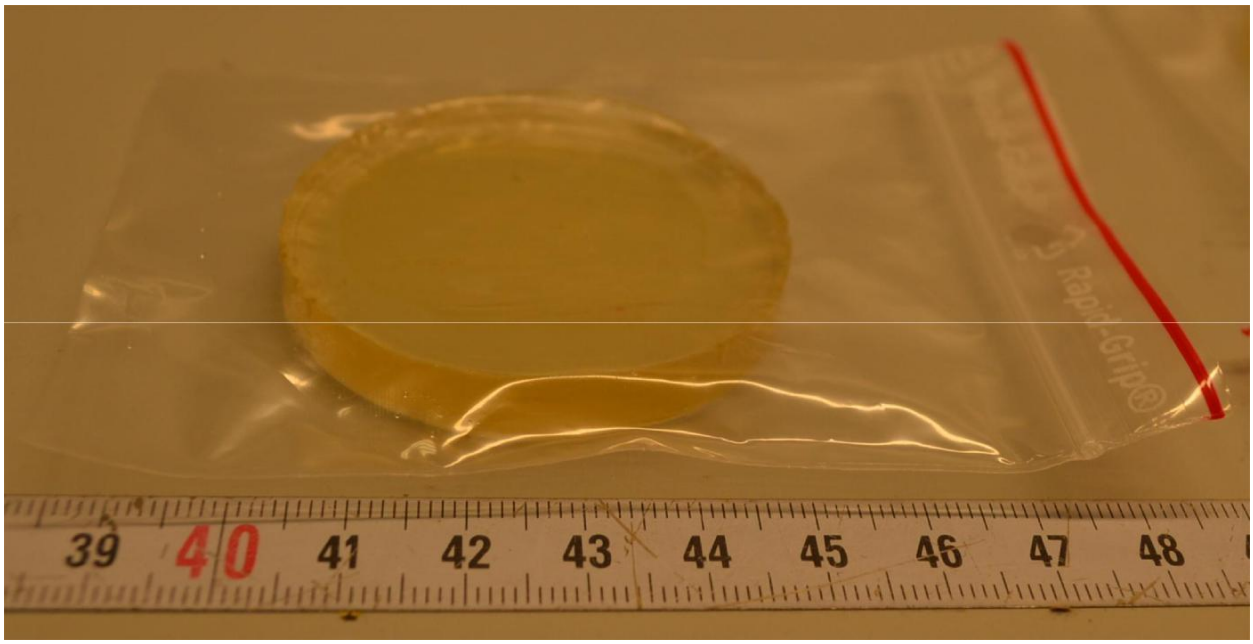
Parameter	Result 1st migration	Result 2nd migration	Result 3rd migration	Limit value
Number of assessors	8	8	8	-
TON	< 1	< 1	< 1	< 2
TFN	2	1	< 1	< 2

6 Evaluation of Results

The product “Dryflex 2 with activator” has been tested in accordance with the Guideline of the hygienic assessment of organic materials in contact with drinking water of the German Environment Agency (surface/volume ratio 5,2 dm^2/L) and has showed some foaming and specific migration of triethanolamine.

To respect the limit value of Triethanolamine concentration the product “Dryflex 2” must be used at a maximum surface/volume ratio of 2 cm^2/L.

7 Picture of the Sample



8 Appendices

8.1 Full Test Results for TOC and Formulation Specific Compounds

Product	Dryflex 2 with activator
Date of test	07/12/2018 - 10/01/2018
Test temperature	23 ± 2 °C
Surface/volume ratio	5.2 dm^{-1}
Conversion factor of assessed product	0.04 d/dm
Number of migration periods	3
Analysis method	EN 12873

	Sequential number of migration period		
	1	2	3
Concentration of TOC in migration water [mg/L]	72 mg/L	24 mg/L	11 mg/L
Concentration of TOC in reference water [mg/L]	NVOC (0.43 mg/L)	NVOC (0.44 mg/L)	NVOC (0.19 mg/L)
Concentration of TOC to be determined [mg/L]	71.57 mg/L	23.56 mg/L	10.81 mg/L
Maximum expected tap concentration of the migrating TOC, c_{Tap} [mg/L]	0.18 mg/L	0.0604 mg/L	0.028 mg/L

	Sequential number of migration period		
	1	2	3
Concentration of acrylic acid in migration water [mg/L]	0.279 mg/L	< 0.05 mg/L	< 0.05 mg/L
Concentration of acrylic acid in reference water [mg/L]	< 0.05 mg/L	< 0.05 mg/L	< 0.05 mg/L
Concentration of acrylic acid to be determined [mg/L]	0.279 mg/L	< 0.05 mg/L	< 0.05 mg/L
Maximum expected tap concentration of the migrating acrylic acid, c_{Tap} [mg/L]	0.00072 mg/L	< 0.00013 mg/L	< 0.00013 mg/L

	Sequential number of migration period		
	1	2	3
Concentration of triethanolamine in migration water [mg/L]	49 mg/L	17 mg/L	8.1 mg/L
Concentration of triethanolamine in reference water [mg/L]	< 0.001 mg/L	< 0.001 mg/L	0.0015 mg/L
Concentration of triethanolamine to be determined [mg/L]	49 mg/L	17 mg/L	8.0985 mg/L
Maximum expected tap concentration of the migrating triethanolamine, c_{Tap} [mg/L]	0.13 mg/L	0.044 mg/L	0.021 mg/L