

SGS INSTITUT FRESENIUS GmbH · Postfach 1261 · 65220 Taunusstein

Order No.: 3552622

Client: 10079934

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Consumer Testing Services

Non Food

Taunusstein, 17/NOV/2015

SGS INSTITUT FRESENIUS GmbH

Im Maisel 14

D-65232 Taunusstein

Your order : Testing for Nitrosamines EN 71-12

Your reference : -

Order date : 03/NOV/2015

Sample No. : 151011675

Test period : 04/NOV/2015 – 16/NOV/2015

## Test Report 3552622-01 Testing of Balloons

Dear Mr.

Following your request we have tested the sample received on October 28<sup>th</sup>, 2015 for N-Nitrosamines and N-nitrosatable substances according to EN 71-12:2013. The test should be carried out on a pooled sample. The sample was marked as follows:

Sample No.	Sample Designation
151011675	Latex balloons different colours <b>Palloni Tondi</b> RG180, RG200, RG250, RG300, RG350, RG400, RG450, RG550, RG550PL

Detailed results are given on the following page(s).


### Assessment:

The pooled samples **meet** the requirements of LFGB and Directive 2009/48/EC in the tested item "N-Nitrosamines and N-nitrosatable substances".

Yours sincerely,

**SGS INSTITUT FRESENIUS GmbH**

i. V.   
Gabriele Götttsch  
(Project Manager)

  
i. A. Alexandra Beck  
(Team Assistant)

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Member of the SGS Group (Société Générale de Surveillance)

Die Prüfungsergebnisse beziehen sich auf die untersuchten Proben. Die Veröffentlichung und Vervielfältigung unserer Prüfberichte und Gutachten zu Werbezwecken sowie deren auszugsweise Verwendung in sonstigen Fällen bedürfen unserer schriftlichen Genehmigung. Alle Dienstleistungen werden auf Grundlage der erscheidbaren Allgemeinen Geschäftsbedingungen der SGS, die auf Anfrage zur Verfügung gestellt werden, erbracht.

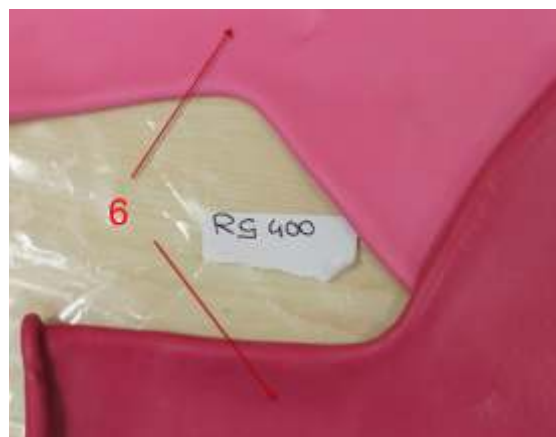
Geschäftsführer: Stefan Steinhardt, Aufsichtsratsvorsitzender: Dirk Hollemans, Sitz der Gesellschaft: Taunusstein, HRB 21540 Amtsgericht Wiesbaden

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Photo documentation:



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Subsample	Subsample no.	Sample designation
1	151012459	Balloons RG180, black & pink
2	151012460	Balloons RG200, purple & green
3	151012461	Balloons RG250, yellow & red
4	151012462	Balloons RG300, light blue & purple
5	151012463	Balloons RG350, black & dark blue
6	151012464	Balloons RG400, rose & pink
7	151012465	Balloons RG450, yellow & red
8	151012466	Balloons RG550, yellow & green
9	151012467	Balloons RG550PL, pink & light blue

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### **Test Results:**

#### **N-Nitrosamines and N-nitrosatable substances**

In accordance with: EN-71-12:2013  
 Migration 1 hour at 40 °C  
 Detection method: GC-TEA / NDELA: LC-MS/MS

Sample designation:

**Subsample 1+2+3**  
**Balloons black & pink + purple & green + yellow & red**

Parameter	Abbrev.	migratable N-nitrosamines [mg/kg]	migratable, N-nitrosatable substances [mg/kg]	Limits of quanti- fication [mg/kg]
N-Nitrosodimethylamine	NDMA	n. d.	0.061	0.001
N-Nitrosodiethylamine	NDEA	n. d.	n. d.	0.001
N-Nitrosodiisopropylamine	NDiPA	n. d.	n. d.	0.001
N-Nitrosodipropylamine	NDPA	n. d.	n. d.	0.001
N-Nitrosodiisobutylamine	NDiBA	n. d.	n. d.	0.001
N-Nitrosodibutylamine	NDBA	0.002	0.015	0.001
N-Nitrosomorpholine	NMOR	n. d.	n. d.	0.001
N-Nitrosopiperidine	NPIP	n. d.	n. d.	0.001
N-Nitrosomethylphenylamine	NMPhA	n. d.	n. d.	0.005
N-Nitrosoethylphenylamine	NEPhA	n. d.	n. d.	0.005
N-Nitrosodiisononylamine	NDiNA	n. d.	n. d.	0.005
N-Nitrosodibenzylamine	NDBzA	n. d.	n. d.	0.005
N-Nitrosodiethanolamine	NDELA	< 0.01	< 0.01	0.01
Total:		<b>0.002</b>	<b>0.076</b>	
Quantity allowed*:		max. 0.05	max. 1.0	

n. d. = not detectable

< LoQ = trace below the limit of quantification

\*: Requirement for balloons according to "Bedarfsgegenstände-Verordnung" (German Consumer Goods Ordinance)

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Sample designation:

**Subsample 4+5+6**  
**Balloons light blue & purple + black & dark blue + rose & pink**

Parameter	Abbrev.	migratable N-nitrosamines [mg/kg]	migratable, N-nitrosatable substances [mg/kg]	Limits of quanti- fication [mg/kg]
N-Nitrosodimethylamine	NDMA	< LoQ	0.043	0.001
N-Nitrosodiethylamine	NDEA	n. d.	n. d.	0.001
N-Nitrosodiisopropylamine	NDiPA	n. d.	n. d.	0.001
N-Nitrosodipropylamine	NDPA	n. d.	n. d.	0.001
N-Nitrosodiisobutylamine	NDiBA	n. d.	n. d.	0.001
N-Nitrosodibutylamine	NDBA	0.001	0.052	0.001
N-Nitrosomorpholine	NMOR	n. d.	n. d.	0.001
N-Nitrosopiperidine	NPIP	n. d.	n. d.	0.001
N-Nitrosomethylphenylamine	NMPhA	n. d.	n. d.	0.005
N-Nitrosoethylphenylamine	NEPhA	n. d.	n. d.	0.005
N-Nitrosodiisononylamine	NDiNA	n. d.	n. d.	0.005
N-Nitrosodibenzylamine	NDBzA	n. d.	n. d.	0.005
N-Nitrosodiethanolamine	NDELA	< 0.01	< 0.01	0.01
Total:		<b>0.001</b>	<b>0.095</b>	
Quantity allowed*:		max. 0.05	max. 1.0	

n. d. = not detectable

< LoQ = trace below the limit of quantification

\*: Requirement for balloons according to "Bedarfsgegenstände-Verordnung" (German Consumer Goods Ordinance)

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Sample designation:

**Subsample 7+8+9**  
**Balloons yellow & red + yellow & green + pink & light blue**

Parameter	Abbrev.	migratable N-nitrosamines [mg/kg]	migratable, N-nitrosatable substances [mg/kg]	Limits of quanti- fication [mg/kg]
N-Nitrosodimethylamine	NDMA	n. d.	0.046	0.001
N-Nitrosodiethylamine	NDEA	n. d.	n. d.	0.001
N-Nitrosodiisopropylamine	NDiPA	n. d.	n. d.	0.001
N-Nitrosodipropylamine	NDPA	n. d.	n. d.	0.001
N-Nitrosodiisobutylamine	NDiBA	n. d.	n. d.	0.001
N-Nitrosodibutylamine	NDBA	n. d.	n. d.	0.001
N-Nitrosomorpholine	NMOR	n. d.	n. d.	0.001
N-Nitrosopiperidine	NPIP	n. d.	n. d.	0.001
N-Nitrosomethylphenylamine	NMPhA	n. d.	n. d.	0.005
N-Nitrosoethylphenylamine	NEPhA	n. d.	n. d.	0.005
N-Nitrosodiisononylamine	NDiNA	n. d.	n. d.	0.005
N-Nitrosodibenzylamine	NDBzA	n. d.	n. d.	0.005
N-Nitrosodiethanolamine	NDELA	< 0.01	< 0.01	0.01
Total:		-	<b>0.046</b>	
Quantity allowed*:		max. 0.05	max. 1.0	

n. d. = not detectable


< LoQ = trace below the limit of quantification


\*: Requirement for balloons according to "Bedarfsgegenstände-Verordnung" (German Consumer Goods Ordinance)

*For the summation of all Nitrosamines only those with a result above the limit of quantification will be taken into account.*

The sample material has been examined in the condition as received.  
 The results of analysis refer solely to the examined sample specimen!

**SGS INSTITUT FRESENIUS GmbH**

  
 i. V. Gabriele Götttsch  
 (Project Manager)

  
 i. A. Alexandra Beck  
 (Team Assistant)