

TEST REPORT

Mechanical & Hardgoods Laboratory

Report No : HY/2019/50226

Page : 1 of 5

Date : 2019/06/03

MIN YUEN RUBBER IND. CO., LTD.

NO.467 SEC 9 XIANGGSHANG RD WUQI DIST TAICHUNG TAIWAN

The following merchandise was submitted & identified by the applicant as:

<u>Type of Product:</u>	Exercise
<u>Style/Item No:</u>	Living Coral
<u>Date of Sample received:</u>	2019/05/23
<u>Testing period:</u>	2019/05/24 - 05/31

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Requested

1. Azo dyes content
2. Latex Qualitative Analysis

Test method/Test Results

- Please see the next page(s)

DRAFT

TEST REPORT

Mechanical & Hardgoods Laboratory

Report No : HY/2019/50226

Page : 2 of 5

Test method/Test Results

1. Azo Dyes (Direct Reduction & Colorant Extraction)

Test Method: Textile: According to ISO 14362-1:2017. Analysis was performed by GC-MS/HPLC-DAD.

Determination of 4-aminoazobenzene (CAS No.:60-09-3) – ISO 14362-3:2017; with the use of GC-MS/ HPLC-DAD.

Test Item (s):	CAS NO	Unit	MDL	Result	
				1	
				Direct reduction ⁺	Colorant extraction ⁺
1): 4-aminodiphenyl	92-67-1	mg/kg	5	N.D.	N.D.
2): benzidine	92-87-5	mg/kg	5	N.D.	N.D.
3): 4-chloro-o-toluidine	95-69-2	mg/kg	5	N.D.	N.D.
4): 2-naphthylamine	91-59-8	mg/kg	5	N.D.	N.D.
5): o-aminoazotoluene	97-56-3	mg/kg	5	N.D.	N.D.
6): 5-nitro-o-toluidine / 2-amino-4-nitrotoluene	99-55-8	mg/kg	5	N.D.	N.D.
7): 4-chloroaniline	106-47-8	mg/kg	5	N.D.	N.D.
8): 4-methoxy-m-phenylenediamine / 2-,4-diaminoanisole	615-05-4	mg/kg	5	N.D.	N.D.
9): 4,4'-diaminodiphenylmethane / 4,4'-diaminodiphenylmethane	101-77-9	mg/kg	5	N.D.	N.D.
10): 3,3'-dichlorobenzidine	91-94-1	mg/kg	5	N.D.	N.D.
11): 3,3'-dimethoxybenzidine	119-90-4	mg/kg	5	N.D.	N.D.
12): 3,3'-dimethylbenzidine	119-93-7	mg/kg	5	N.D.	N.D.
13): 4,4'-methylenedi-o-toluidine	838-88-0	mg/kg	5	N.D.	N.D.
14): p-cresidine (2-methoxy-5-methylaniline)	120-71-8	mg/kg	5	N.D.	N.D.
15): 4,4'-methylene-bis-(2-chloroaniline)	101-14-4	mg/kg	5	N.D.	N.D.
16): 4,4'-oxydianiline	101-80-4	mg/kg	5	N.D.	N.D.
17): 4,4'-thiodianiline	139-65-1	mg/kg	5	N.D.	N.D.
18): o-toluidine	95-53-4	mg/kg	5	N.D.	N.D.
19): 4-methyl-m-phenyenediamine/ 2,4-toluylenediamine	95-80-7	mg/kg	5	N.D.	N.D.
20): 2,4,5-trimethylaniline	137-17-7	mg/kg	5	N.D.	N.D.
21): o-anisidine	90-04-0	mg/kg	5	N.D.	N.D.
22): 4-aminoazobenzene ^(#)	60-09-3	mg/kg	5	N.D.	N.D.
23): 2,4-xylidine	95-68-1	mg/kg	5	N.D.	N.D.
24): 2,6-xylidine	87-62-7	mg/kg	5	N.D.	N.D.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

TEST REPORT

Mechanical & Hardgoods Laboratory

Report No : HY/2019/50226

Page : 3 of 5

Remark: + Direct reduction refers to the extraction and reduction according to ISO 14362-1:2017 clause 10.2 and relevant clauses.

Colorant extraction refers to the colourant extraction and subsequent reduction according to ISO 14362-1:2017 clause 10.1 and relevant clauses.

4-Aminodiphenyl (CAS number 92-67-1), 2-Naphylamine (CAS number 91-59-8) and 4-Methoxy-m-phenylene-diamine (CAS number 615-05-4) can be indirectly generated from some colorants which do not contain these amines azo bound. The use of banned azo colorants cannot be reliably ascertained without additional information.

In case polyurethane materials are used, e.g. PU foams and coatings and in prints, it cannot be ruled out that certain amines, e.g. 4,4'-methylene-dianiline (MDA, CAS number 101-77-9) and 2,4-toluylene-diamine (TDA, CAS number 95-80-7) are released from the PU component and not from a banned azo colorant.

In case of pigment prints care has to be taken that 4,4'-methylene-dianiline (MDA, CAS number 101-77-9) is not released from a source of banned azo colorants but from e.g. a chemical fixing agent.

The ISO 14362-1:2017 methods will enable further cleavage of 4-aminoazobenzene to non-forbidden amines: aniline and 1,4-phenylenediamine. If aniline and/or 1,4-phenylenediamine is not found (i.e. 5.0 mg/kg) by mentioned test method, test result for 4-aminoazobenzene (CAS no. 60-09-3) is considered as "not detected" (i.e. <5.0 mg/kg). Otherwise, the test method of ISO 14362-3:2017 will be employed to verify the presence of 4-aminoazobenzene.

DRAFT

TEST REPORT

Mechanical & Hardgoods Laboratory

Report No : HY/2019/50226

Page : 4 of 5

2. Latex Qualitative Analysis

Test Method: Refer to ASTM D5712-15 Analysis of Aqueous Extractable Protein in Natural Rubber and Its Products Using the Modified Lowry Method

Test Equipment :

Name	Brand	Model
UV-VISIBLE Spectrophotometer	SHIMADZU	UV-1700

Lab. Environmental Conditions:

Ambient Temperature : (25 ± 3) °C

Relative humidity : (50 ± 10) %

Test Result :

INSPECTION ITEM	MDL	TEST RESULT
		1
Aqueous Extractable Protein (ppm)	0.2	N.D.

Description:

1. Coral fabric of sample.

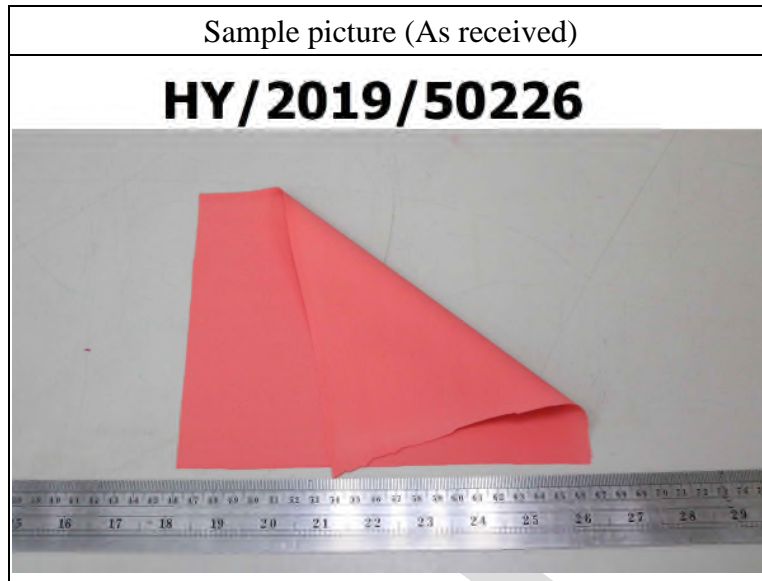
- Note:
1. N.D. = not detectable
 2. mg/kg = ppm
 3. MDL=Method Detection Limit
 4. These tests were conducted in SGS Taiwan Ltd. Chemical Laboratory- Kaohsiung and Material and Engineering Laboratory-Kaohsiung

TEST REPORT

Mechanical & Hardgoods Laboratory

Report No : HY/2019/50226

Page : 5 of 5



** End of Report **

DRAFT

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.