

**Test Report** No.: NGBEC21000565101 Date: Dec 10, 2021 Page 1 of 8

NINGBO VLANDE RUBBER TECHNOLOGY CO., LTD.

152 XIHUANG, CHENGZHONG VILLAGE, ZHOUXIANG TOWN, CIXI CITY, ZHEJIANG PROVINCE

The following sample(s) was/were submitted and identified by/on behalf of the client as: O-ring

SGS Job No. : NP21-006516

Main Substance : rubber Model No. : NBR

Material No. : 020106064 Sample Receiving Date : Dec 06, 2021

Testing Period : Dec 06, 2021 to Dec 10, 2021
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted sample(s), the results of

Cadmium, Lead, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) comply with the limits as set

by RoHS Directive (EU) 2015/863 amending Annex II to Directive

2011/65/EU.

Signed for and on behalf of

SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch

Ashley Zhang

Ashley Zhang
Approved Signatory





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Test Results:

#### Test Part Description:

SN ID.	Sample No.	SGS Sample ID	Description
SN1	A1	NGB21-0005651-0001.C001	Black solids

#### Remarks:

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

## RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-

2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES,

UV-Vis and GC-MS.

Test Item(s)		Units	MDL	A1
Cadmium(Cd)		mg/kg	2	ND
Lead(Pb)	1000	mg/kg	2	4
Mercury(Hg)	1000	mg/kg	2	ND
Hexavalent Chromium(CrVI)	1000	mg/kg	8	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND



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Test Item(s)	Limit	Units	MDL	A1
Decabromobiphenyl		mg/kg	5	ND
Sum of PBDEs		mg/kg	-	ND
Monobromodiphenyl ether		mg/kg	5	ND
Dibromodiphenyl ether		mg/kg	5	ND
Tribromodiphenyl ether		mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
Heptabromodiphenyl ether		mg/kg	5	ND
Octabromodiphenyl ether		mg/kg	5	ND
Nonabromodiphenyl ether		mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Dibutyl Phthalate(DBP)	1000	mg/kg	50	ND
Benzyl Butyl Phthalate(BBP)		mg/kg	50	ND
Bis-(2-ethylhexyl) Phthalate(DEHP)		mg/kg	50	ND
Diisobutyl Phthalate(DIBP)		mg/kg	50	ND

#### Notes:

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.

IEC 62321 series is equivalent to EN 62321 series

https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP\_ORG\_ID,FSP\_LANG\_ID:1258637,25

(2) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.



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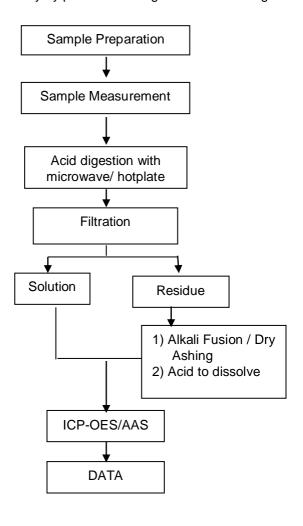


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#### Elements (IEC62321) Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart.





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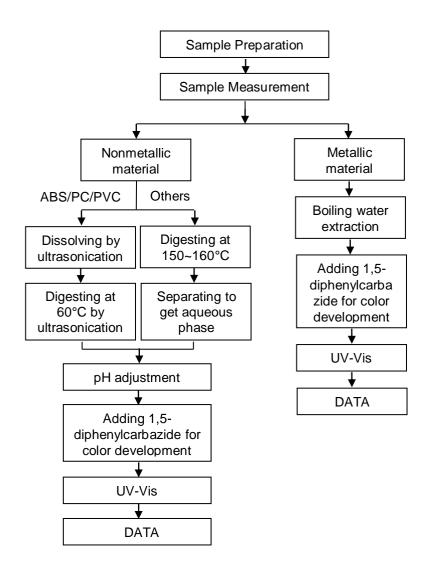
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### Hexavalent Chromium (Cr(VI)) Testing Flow Chart





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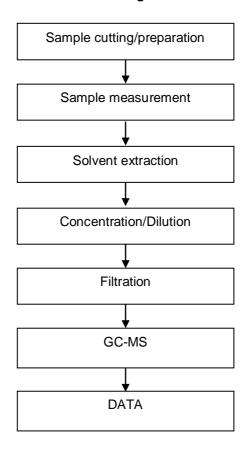
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#### **Phthalates Testing Flow Chart**





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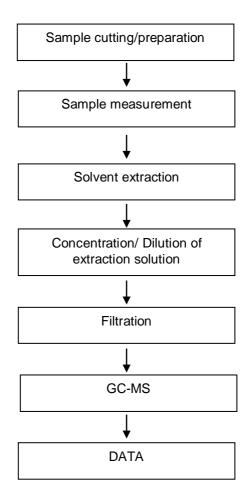
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### PBBs/PBDEs Testing Flow Chart





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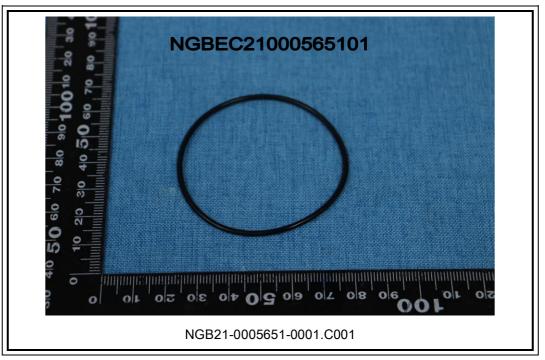
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