

TEST REPORT

APPLICANT : SPIGEN HQ
ADDRESS : 12F, 446, Bongeunsa-ro, Gangnam-gu,
Seoul, Korea

PAGE: 1 of 8

REPORT NO. RT23R-S2753-001-E

DATE: May 15, 2023

SAMPLE DESCRIPTION : The following submitted sample(s) said to be:-

NAME/TYPE OF PRODUCT : A601/A610
SAMPLE ID NO. : RT23R-S2753-001
ITEM NO. : Mint TPU
MANUFACTURER/VENDOR : SPIGEN HQ

SAMPLE RECEIVED : May 08, 2023
TESTING DATE : May 08, 2023 ~ May 15, 2023

TEST METHOD(S) : Please see the following page(s).
TEST RESULT(S) : Please see the following page(s).

- * Note 1 : The test results presented in this report refer only to the object tested.
- * Note 2 : This report shall not be reproduced except in full without the written approval of the testing laboratory.
- * Note 3 : The item no. is assigned by client and indicated according to their requirement and guarantee letter.

Approved by,



Jade Jang / Lab. Technical Manager

Authorized by,



Bo Park / Lab. General Manager



Authenticity check



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TEST REPORT

PAGE: 2 of 8
DATE: May 15, 2023

REPORT NO. RT23R-S2753-001-E

SAMPLE ID NO. : RT23R-S2753-001

SAMPLE DESCRIPTION : A601/A610

TEST ITEM	UNIT	TEST METHOD	MDL	RESULT
Bisphenol A (BPA)	mg/kg	With reference to US EPA 3550C, determined by LC/MS or LC/MS/MS	1	N.D.

Tested by : Hayan Park

Notes : mg/kg = ppm = parts per million
< = Less than
N.D. = Not detected (<MDL)
MDL = Method detection limit

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Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0025 Web Site : intertek.co.kr
Seoul Lab. Address : 7, Ahasan-ro 5-gil, Seongdong-gu, Seoul, 04793 Korea



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TEST REPORT

PAGE: 3 of 8
DATE: May 15, 2023

REPORT NO. RT23R-S2753-001-E

SAMPLE ID NO. : RT23R-S2753-001

SAMPLE DESCRIPTION : A601/A610

TEST ITEM	CAS NO.	UNIT	TEST METHOD	MDL	RESULT
Dibutyl phthalate (DBP)	84-74-2	mg/kg	With reference to IEC 62321-8 Edition 1.0 : 2017, by solvent extraction and determined by GC/MS	50	N.D.
Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg		50	N.D.
Di-n-octyl phthalate (DNOP)	117-84-0	mg/kg		50	N.D.
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	mg/kg		100	N.D.
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	mg/kg		100	N.D.
Benzyl butyl phthalate (BBP)	85-68-7	mg/kg		50	N.D.
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg		50	N.D.
Dimethyl phthalate (DMP)	131-11-3	mg/kg		50	N.D.
Diethyl phthalate (DEP)	84-66-2	mg/kg		50	N.D.
Di-n-pentyl phthalate (DPP)	131-18-0	mg/kg		50	N.D.
Di-n-hexyl phthalate (DNHP)	84-75-3	mg/kg		50	N.D.
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	mg/kg		50	N.D.

Tested by : Hayan Park

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PAGE: 4 of 8
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SAMPLE ID NO. : RT23R-S2753-001

SAMPLE DESCRIPTION : A601/A610

TEST ITEM	CAS NO.	UNIT	TEST METHOD	MDL	RESULT
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	mg/kg	With reference to IEC 62321-8 Edition 1.0 : 2017, by solvent extraction and determined by GC/MS	50	N.D.
Di(2-methoxyethyl) phthalate (DMEP)	117-82-8	mg/kg		50	N.D.
Diisopentyl phthalate (DIPP)	605-50-5	mg/kg		50	N.D.
N-pentyl-isopentylphthalate (NPIP)	776297-69-9	mg/kg		50	N.D.
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	mg/kg		50	N.D.
1,2-Benzenedicarboxylic acid, dihexylester, branched and linear	68515-50-4	mg/kg		50	N.D.
Hexahydromethylphthalic anhydride ¹⁾ , Hexahydro-4-methylphthalic anhydride ²⁾ , Hexahydro-1-methylphthalic anhydride ³⁾ , Hexahydro-3-methylphthalic anhydride ⁴⁾ *	25550-51-0 19438-60-9 48122-14-1 57110-29-9	mg/kg		100	N.D.
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5 68648-93-1	mg/kg		100	N.D.
Dicyclohexyl phthalate (DCHP)	84-61-7	mg/kg		50	N.D.
Orthophthalic acid (1,2-benzenedicarboxylic acid)	88-99-3	mg/kg		50	N.D.

Tested by : Hayan Park

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* The individual isomers 2), 3) and 4) (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers 1) are covered by this entry.

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TEST REPORT

PAGE: 5 of 8
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SAMPLE ID NO. : RT23R-S2753-001

SAMPLE DESCRIPTION : A601/A610

TEST ITEM	CAS NO.	UNIT	TEST METHOD	MDL	RESULT
Diisohexyl phthalate (DIHxP)	71850-09-4	mg/kg	With reference to IEC 62321-8 Edition 1.0 : 2017, by solvent extraction and determined by GC/MS	50	N.D.
Di-iso-octylphthalate (DIOP)	27554-26-3	mg/kg		50	N.D.
Dinonyl phthalate (DNP)	84-76-4	mg/kg		50	N.D.
Dipropyl phthalate (DPRP)	131-16-8	mg/kg		50	N.D.
Monobutyl phthalate (MBP)	131-70-4	mg/kg		50	N.D.
Dioctyl tere-phthalate (DOTP/DEHT)	6422-86-2	mg/kg		50	N.D.
Di(4-methyl-2-pentyl) phthalate(BMPP)	146-50-9	mg/kg		50	N.D.
Bis(2-n-butoxyethyl) Phthalate (BBEP)	117-83-9	mg/kg		50	N.D.
Diheptyl phthalate (DHP)	3648-21-3	mg/kg		50	N.D.
(Diundecyl phthalate (DUP)	3648-20-2	mg/kg		50	N.D.
bis(4-metyl-2-pentyl)phthalate	84-63-9	mg/kg		50	N.D.
Dipropylheptyl phthalate (DPHP)	53306-54-0	mg/kg		50	N.D.

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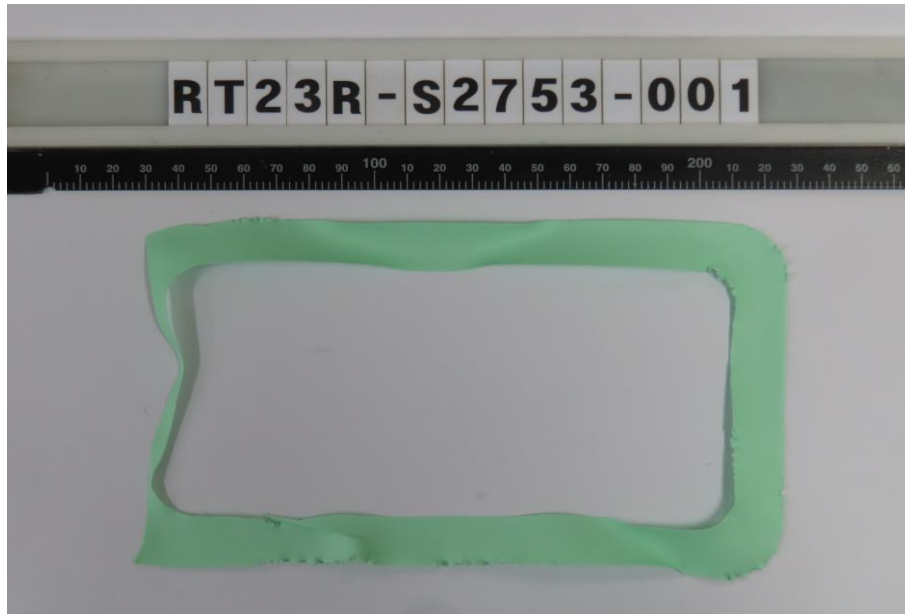
PAGE: 6 of 8
DATE: May 15, 2023

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* View of sample as received;-



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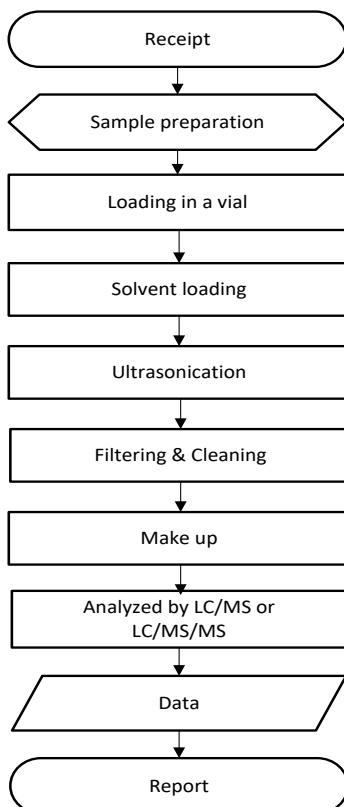
PAGE: 7 of 8
DATE: May 15, 2023

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Flow Chart (BPA)



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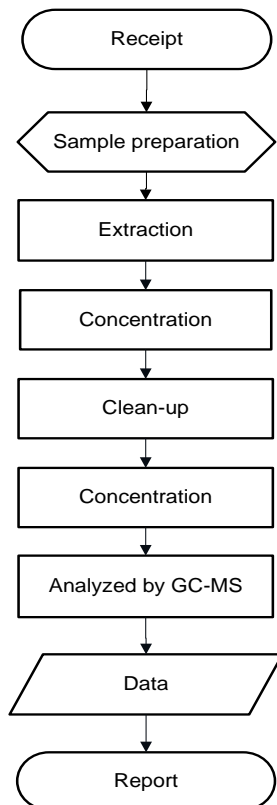
PAGE: 8 of 8

DATE: May 15, 2023

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Flow Chart (Phthalates)



***** End of Report *****

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