Test Report No. 4337641 Date : 19-Aug-2019

Client : IRPC Public Company Limited
555/2,Energy Complex,Building B,6 th Floor, Vibhavadi Rangsit Road,
Chatuchak Bangkok 10900 Thailand

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

Sample Name : 1100NK
Manufacturer/Vendor : IRPC
Country of Origin : Thailand

The following sample(s) was/were identified by SGS as:

SGS Sample No. : 4489134
Sample Condition : Sample is contained in a plastic bag.
Quantity Submitted : 1 bag

Sample Receiving Date : 9-Aug-2019
Testing Period : 09-Aug-2019 to 19-Aug-2019

Test Requested : In accordance with the RoHS Directive 2011/65/EU (Annex II) [amended by Directive (EU) 2015/863] .Selected test (s) as requested by client.

Test Method :
(1) IEC 62321-5 edition 1.0 : 2013 for Lead content, Analyzed by ICP-OES. Microwave digestion method
(2) IEC 62321-5 edition 1.0 : 2013 for Cadmium content, Analyzed by ICP-OES. Microwave digestion method
(3) IEC 62321-4 ,edition 1.1 : 2017 for Mercury content,Analyzed by ICP-OES. Microwave digestion method
(4) IEC 62321-7-2 edition 1.0 : 2017,determination of Hexavalent Chromium For Insoluble polymer by Colorimetric Method using UV-Vis.and/or with reference to IEC 62321-5:2013,determination of Chromium by ICP-OES.
(5) IEC 62321-6 edition 1.0 : 2015 for PBBs/PBDEs content, Analyzed by GC/MS.
(6) IEC 62321-8 edition 1.0 : 2017 for Phthalates content,Analyzed was performed by GC/MS.

Test Results : Please refer to next page.

"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

SGS (Thailand) Limited | Laboratory Services 41/23 Soi Rama III 59 Rama III Road Chongnonsee Yannawa Bangkok 10120
t +66 (0)2 683 05 41 294 74 85-90 f +66 (0)2 294 74 84 683 07 58 www.sgs.com
Member of the SGS Group

CONCLUSION

Based on the performed tests on submitted sample(s), the results of Cadmium (Cd), Lead (Pb), Mercury (Hg), Hexavalent chromium (Cr-VI), 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 (Thailand) Limited

Patcharee T.

Patcharee Treeporncharoen
Laboratory manager - Chemical

"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

4039354

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Test Report No. 4337641 Date : 19-Aug-2019

TEST RESULTS

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result (1)	MDL	RoHS Limit
Lead (Pb)	(1)	n.d.	2	1000
Cadmium (Cd)	(2)	n.d.	2	100
Mercury (Hg)	(3)	n.d.	2	1000
Hexavalent Chromium (Cr(VI))	(4)	n.d.	8	1000

Test Part Description
Result (1) translucent plastic

Note :
(a) mg/kg = ppm ; 0.1wt% = 1000 ppm
(b) n.d. = Not Detected (<MDL)
(c) MDL = Method Detection Limit
(d) Test done on client submitted sample
(e) The result of Hexavalent Chromium (Cr(VI)) is "ND" as the result of Chromium (Cr) is "ND", and confirmation test of Hexavalent Chromium (Cr(VI)) is not required.
(f) If the Chromium (Cr) content is greater than the MDL of Hexavalent Chromium (Cr(VI)), confirmation test of Hexavalent Chromium (Cr(VI)) is required.

"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

4039354

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

TEST RESULTS

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result (1)	MDL	RoHS Limit
Sum of PBBs	(5)	n.d.	-	1000
Monobromobiphenyl		n.d.	5	-
Dibromobiphenyl		n.d.	5	-
Tribromobiphenyl		n.d.	5	-
Tetrabromobiphenyl		n.d.	5	-
Pentabromobiphenyl		n.d.	5	-
Hexabromobiphenyl		n.d.	5	-
Heptabromobiphenyl		n.d.	5	-
Octabromobiphenyl		n.d.	5	-
Nonabromobiphenyl		n.d.	5	-
Decabromobiphenyl		n.d.	5	-

"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

TEST RESULTS

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result (1)	MDL	RoHS Limit
Sum of PBDEs	(5)	n.d.	-	1000
Monobromodiphenyl ether		n.d.	5	-
Dibromodiphenyl ether		n.d.	5	-
Tribromodiphenyl ether		n.d.	5	-
Tetrabromodiphenyl ether		n.d.	5	-
Pentabromodiphenyl ether		n.d.	5	-
Hexabromodiphenyl ether		n.d.	5	-
Heptabromodiphenyl ether		n.d.	5	-
Octabromodiphenyl ether		n.d.	5	-
Nonabromodiphenyl ether		n.d.	5	-
Decabromodiphenyl ether		n.d.	5	-

Test Part Description
Result (1) translucent plastic

Note :
(a) mg/kg = ppm ; 0.1 wt% = 1000 ppm
(b) n.d. = Not Detected
(c) MDL = Method Detection Limit
(d) "-" = Not regulated
(e) Test done on client submitted sample

"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

TEST RESULTS

Phthalates Content for RoHS Directive 2011/65/EU Annex II [amended by Directive (EU) 2015/863],Analysis was performed by GC/MS.

Test item (s) :	Method (refer to 6)	Result (1) (mg/kg)	MDL	RoHS Limit (mg/kg)
DEHP (Di-2-ethylhexyl phthalate) (CAS No.: 117-81-7)	IEC 62321-8 , Edition 1.0 , 2017	n.d.	50	1000
BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7)	IEC 62321-8 , Edition 1.0 , 2017	n.d.	50	1000
DBP (Di-butyl phthalate) (CAS No.: 84-74-2)	IEC 62321-8 , Edition 1.0 , 2017	n.d.	50	1000
DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	IEC 62321-8 , Edition 1.0 , 2017	n.d.	50	1000

Note :
(a) mg/kg = ppm ; 0.1 wt% = 1000 ppm
(b) n.d. = Not Detected
(c) MDL = Method Detection Limit
(d) Result (1) translucent plastic
(e) Test done on client submitted sample

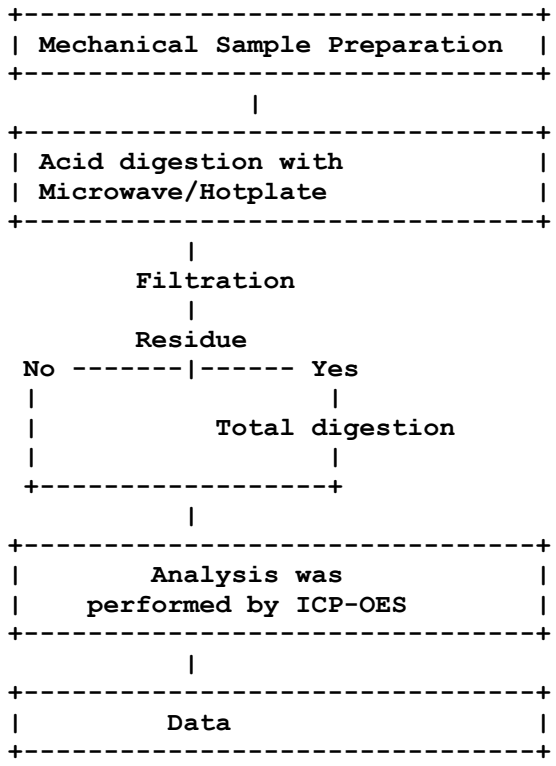
"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

SGS (Thailand) Limited | Laboratory Services 41/23 Soi Rama III 59 Rama III Road Chongnonsee Yannawa Bangkok 10120
t +66 (0)2 683 05 41 294 74 85-90 f +66 (0)2 294 74 84 683 07 58 www.sgs.com
Member of the SGS Group

Flow chart of Pb,Cd,Hg Testing

(Test method : IEC 62321)

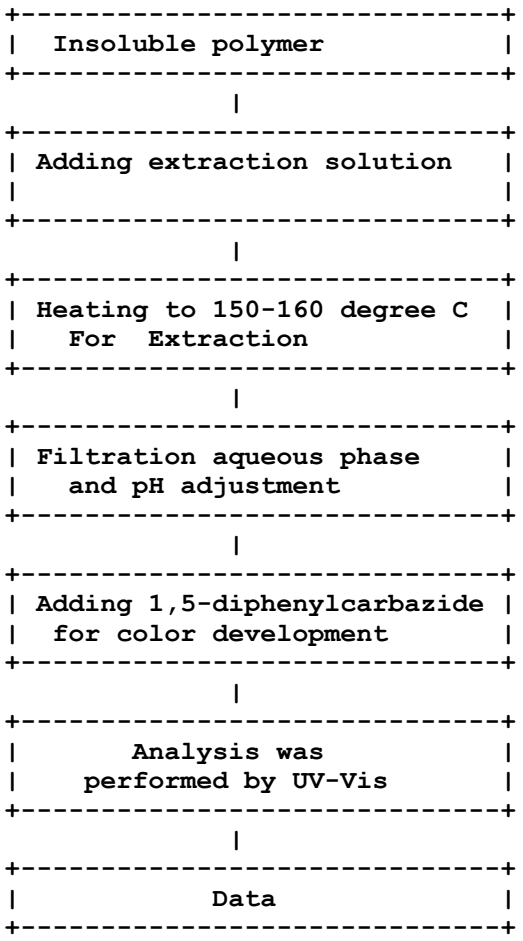


"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Flow chart of Hexavalent Chromium Testing

(Test method : IEC 62321)



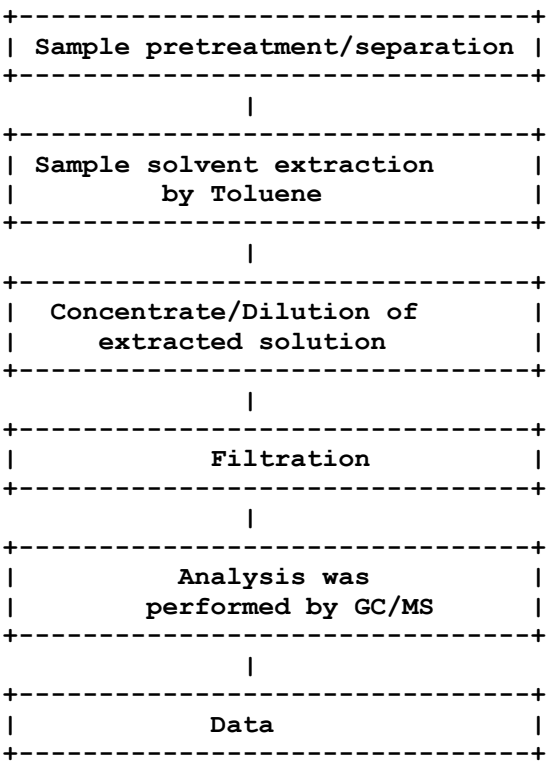
"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

4039354

Flow chart of PBBs,PBDEs Testing

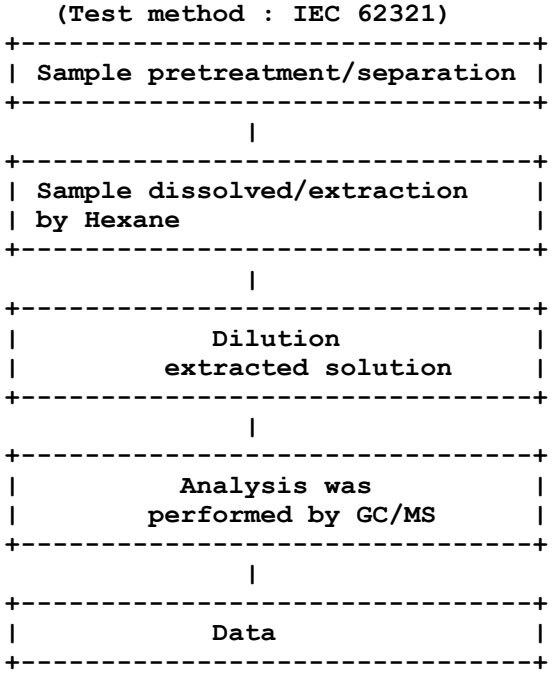
(Test method : IEC 62321)



"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Flow chart of Phthalates Testing



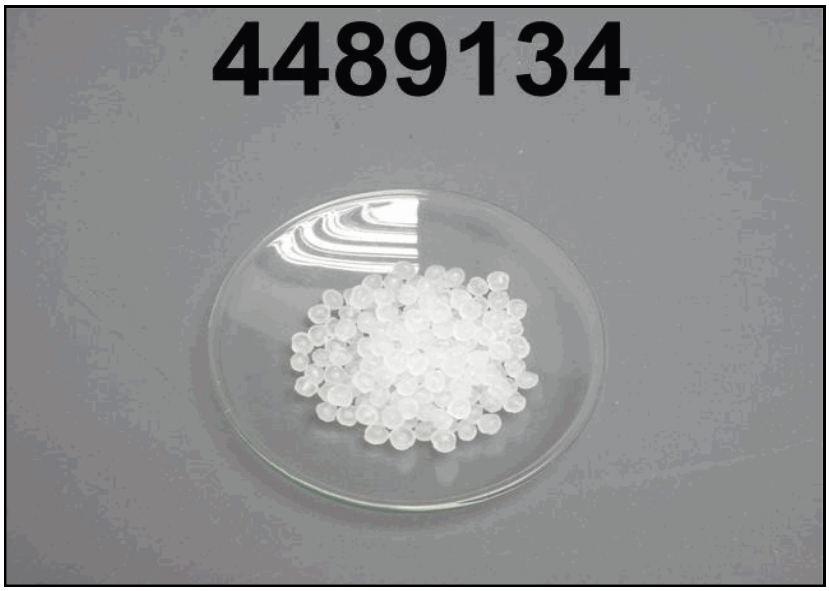
"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

4039354

Test Report No. 4337641 Date : 19-Aug-2019

SAMPLE/ATTACHMENT PICTURE



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

"Any holder of this document is advised that should client or third party information be supplied with respect to the goods or sample, SGS may, at its discretion, attached or indicate such information to the report but SGS makes no warranties or accepts no liable for the veracity or lack thereof of such Information."

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request.
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 instructions, 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."
Publish or advertisement of the result or this document is prohibited, unless prior written approval of the Company.
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only."
WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

SGS (Thailand) Limited | Laboratory Services 41/23 Soi Rama III 59 Rama III Road Chongnonsee Yannawa Bangkok 10120
t +66 (0)2 683 05 41 294 74 85-90 f +66 (0)2 294 74 84 683 07 58 www.sgs.com
Member of the SGS Group