

Test Report No. VNT/H/23/001282
Dated AUG. 24, 2023



Vietnam

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Applicant : **ROYAL HOUSE MANUFACTURE AND INVESTMENT JOINT STOCK COMPANY**
Address : Road No.8, Nhon Trach II Industrial Park,
Nhon Phu, Hiep Phuoc Town, Nhon Trach Dist., Dong Nai Prov., Viet Nam
Attention : Ms. Lưu Thu Hòa
Received Date : Aug. 16, 2023
Test Period : From Aug. 16, 2023 to Aug. 24, 2023
Sample Description : Quartz stone
Phase/Stage of Production : Production
Manufacturer : ROYAL MANUFACTURE AND INVESTMENT JOINT STOCK COMPANY
Model/Style# : /
Item# : /
SKU# : /
Date of Production : /
Buyer : /
Wood Type or specie/ Material : /
Quantity of sample(s) submitted : /
Country Of Origin : Road No.8, Nhon Trach II Industrial Park,
Nhon Phu, Hiep Phuoc Town, Nhon Trach Dist., Dong Nai Prov., Viet Nam
Country Of Destination : /



VILAS 487

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The results reported herein have been performed in accordance with the terms of accreditation under the Vietnam Bureau of Accreditation. Tests marked "Not Accredited" in this Report are not included in the BoA Accreditation Schedule for our laboratory.

Result summary/ conclusion:

Test parameter(s)	Conclusion
Alkylphenole/ Alkylphenole thoxylates(AP/APEOs)	Data/ See Result(s)
Total Bisphenol A	Data/ See Result(s)
Toxic Heavy Metal (As, Cd, Cr(VI), Pb, Hg)	Data/ See Result(s)
Polychlorobiphenyls (PCBs)	Data/ See Result(s)
Phthalates Content	Data/ See Result(s)
Polycyclic Aromatic Hydrocarbons (PAHs)	Data/ See Result(s)
Volatile Organic Compounds (VOCs)	Data/ See Result(s)
Chlorobenzenes & Chlorotoluenes (COCs)	Data/ See Result(s)

Note(s):

- The submitted sample(s) is Not Drawn by the Laboratory.
- This testing result is only valid on the tested sample.
- The test report shall not be reproduced except in full without the written approval of the laboratory.

MATERIAL ANALYSIS (AS IDENTIFIED BY LAB)

Sample No.	Component	Material	Color	Mat. No.
Sample 1	Quartz stone	Stone	Brown	001

TEST RESULT(S):

Alkylphenols and Alkylphenol Ethoxylates (APs and APEOs)

Test Method: Reference to ISO 18254-1:2016 and analysis by LC-MS.

Compounds	CAS No.	Results [mg/kg]	Requirement [mg/kg]
		001	
Nonylphenol (NPs)	--	N.D.	--
Nonylphenol ethoxylates (NPEOs)	--	N.D.	--
Octylphenol (OPs)	--	N.D.	--
Octylphenol ethoxylates (OPEOs)	--	N.D.	--

Note(s):

1. N.D. = Not Detected (< Reporting Limit)
2. mg/L = mg/kg
3. Reporting Limit = 10 mg/kg

Total Bisphenol A content

Test method: In-house test method and analysis by LC-MS

Test parameter	CAS No.	Result [mg/kg]	Requirement [mg/kg]
		001	
Bisphenol A	80-05-7	N.D.	--

Note(s):

1. ppm = mg/kg
2. N.D = Not Detected (< Reporting limit)
3. Reporting limit = 0.5 mg/kg

Toxic Heavy Metal (As, Cd, Cr(VI), Pb, Hg)

Test Method: Reference to ISO 17072-2:2019 and determined by ICP-OES

Test Item	Reporting limit	Result [mg/kg]	Requirement [mg/kg]
		001	
Chromium (VI)	3	N.D.	--
Total Arsenic (As)	10	N.D.	--
Total Cadmium (Cd)	10	N.D.	--
Total Lead (Pb)	10	N.D.	--
Total Mercury (Hg)	0.5	N.D.	--

Note(s):

1. ppm = mg/kg
2. N.D. = Not Detected (< Reporting limit)
3. The result of Hexavalent Chromium (Cr (VI)) is deemed to be "N.D." since the result of total chromium content is "N.D.", so testing of Hexavalent Chromium (Cr (VI)) is not required.

Polychlorobiphenyls (PCBs)

Test method: Extraction with organic solvent, analysis by GC-MS

Test parameter	Result [mg/kg]	Requirement [mg/kg]
	001	
Polychlorobiphenyls (PCBs)	N.D.	--

List of Polychlorobiphenyls (PCBs):

No.	Name of Analytes	No.	Name of Analytes
1	2,4,4'-Trichlorobiphenyl (PCB-28)	4	2,2',3,4,4',5'-Hexachlorobiphenyl (PCB-138)
2	2,2',5,5'-Tetrachlorobiphenyl (PCB-52)	5	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB-153)
3	2,2',4,5,5'-Pentachlorobiphenyl (PCB-101)	6	2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB-180)

Note(s):

1. ppm = mg/kg
2. N.D = Not Detected (< Reporting limit/ Detection limit)
3. Reporting limit = 0.1 mg/kg

Phthalates Content

Test Method: Reference to EN 14372:2004 and analysis by GC-MS

Compounds	CAS No.	Result [mg/kg]	Requirement [mg/kg]
		001	
Di-n-butyl phthalate (DBP)	84-74-2	N.D.	--
Butyl benzyl phthalate (BBP)	85-68-7	N.D.	--
Di(2-ethylhexyl)phthalate (DEHP)	117-81-7	N.D.	--
Di-n-octylphthalate (DNOP)	117-84-0	N.D.	--
Diisononyl phthalate (DINP)	68515-48-0/ 20548-62-3/ 28553-12-0	N.D.	--
Di-isodecyl phthalate (DIDP)	26761-40-0/ 68515-49-1	N.D.	--
Diisobutyl phthalate (DIBP)	84-69-5	N.D.	--
Dipentyl phthalate (DPENP)	131-18-0	N.D.	--
1,2-benzenedicarboxylic acid; di-C 6-8- branched alkylesters, C 7-rich (DIHP)	71888-89-6	N.D.	--
Di-iso-heptyl phthalate (DIHP)			
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	N.D.	--
Di-ethyl-phthalate	84-66-2	N.D.	--
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0/ 776297-69-9	N.D.	--
Diisopentylphthalate (DIPP)	605-50-5	N.D.	--
Di-n-hexyl phthalate (DnHP)/DHEXP	84-75-3	N.D.	--
1,2-Benzenedicarboxylic acid, dihexylester, branched and linear	68515-50-4	N.D.	--
Di-n-propyl phthalate	131-16-8	N.D.	--
Dicyclohexyl phthalate (DCHP)	84-61-7	N.D.	--
Di-ido-octyl phthalate	27554-26-3	N.D.	--
1,2-benzenedicarboxylic acid; Di-C7-11- branched linear alkyl phthalate (DNHUP)	68515-42-4	N.D.	--
1,2-benzenedicarboxylic acid; Di-C6,8,10- alkyl Esters (1,2-BADE)	68515-51-5	N.D.	--
1,2-benzenedicarboxylic Acid mixed decyl and hexyl and octyl diester	68648-93-1	N.D.	--
Bis(4-Methylpentyl)phthalate (PHTH-022N) (DIHxP)	71850-09-4	N.D.	--

Note(s):

1. N.D. = Not Detected (< Reporting Limit)
2. Reporting limit = 50 mg/kg

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method: AfPS GS 2019:01 PAK, determination by GC/MS

Test Item(s):	CAS No.	Result [mg/kg]	Requirement [mg/kg]
		001	
Benzo[a]pyrene (BaP)	50-32-8	N.D.	--
Benzo[e]pyrene	192-97-2	N.D.	--
Benzo[j]fluoranthene	205-82-3	N.D.	--
Benzo[b]fluoranthene	205-99-2	N.D.	--
Benzo[k]fluoranthene	207-08-9	N.D.	--
Chrysene	218-01-9	N.D.	--
Dibenz[a,h]anthracene	53-70-3	N.D.	--
Benzo[a]anthracene	56-55-3	N.D.	--
Benzo[ghi]perylene	191-24-2	N.D.	--
Indeno[1,2,3-cd]pyrene	193-39-5	N.D.	--
Phenanthrene	85-01-8	N.D.	--
Fluorene	86-73-7	N.D.	--
Naphthalene	91-20-3	N.D.	--
Anthracene	120-12-7	N.D.	--
Pyrene	129-00-0	N.D.	--
Sum 15 PAHs	--	N.D.	--

Note(s):

1. ppm = mg/kg
2. N.D. = Not Detected (< Reporting Limit)
3. Reporting Limit = 0.1 mg/kg



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Volatile Organic Compounds (VOCs)

Test Method: Headspace GC-MS

Test parameter	CAS No.	Result [mg/kg]	Requirement [mg/kg]
		001	--
1,1,1,2- Tetrachloroethane	630-20-6	N.D.	--
1,1,1- Trichlorethane	71-55-6	N.D.	--
1,1,2,2- Tetrachloroethane	79-34-5	N.D.	--
1,1,2- Trichlorethane	79-00-5	N.D.	--
1,1,2- Trichlorethane	79-01-6	N.D.	--
1,1-Dichloroethene	75-35-4	N.D.	--
1,2-Dichloroethene	107-06-2	N.D.	--
Benzene	71-43-2	N.D.	--
Carbondisulfide	75-15-0	N.D.	--
Trichloromethane (Chloroform)	67-66-3	N.D.	--
Cyclohexanone	108-94-1	N.D.	--
Ethylbenzene	100-41-4	N.D.	--
m-Xylene	108-38-3	N.D.	--
o-Xylene	95-47-6	N.D.	--
Pentachloroethane	76-01-7	N.D.	--
p-Xylene	106-42-3	N.D.	--
Tetrachloroethylene	127-18-4	N.D.	--
Tetrachloromethane (Carbontetrachlorid)	56-23-5	N.D.	--
Toluene	108-88-3	N.D.	--

Note(s):

1. ppm = mg/kg = mg/L
2. N.D. = Not Detected (< Reporting limit)
3. Reporting limit = 0.1 mg/kg

Chlorobenzenes & Chlorotoluenes (COCs)

Test method: Reference to DIN EN 17137:2019 and analysis by GC-MS.

Compounds	CAS No.	Result [mg/kg]	Requirement [mg/kg]
		001	
Chlorobenzene	108-90-7	N.D.	--
1,2-Dichlorobenzene	95-50-1	N.D.	--
1,3-Dichlorobenzene	541-73-1	N.D.	--
1,4-Dichlorobenzene	106-46-7	N.D.	--
1,2,3-Trichlorobenzene	87-61-6	N.D.	--
1,2,4-Trichlorobenzene	120-82-1	N.D.	--
1,3,5-Trichlorobenzene	108-70-3	N.D.	--
1,2,3,4-Tetrachlorobenzene	634-66-2	N.D.	--
1,2,3,5-Tetrachlorobenzene	634-90-2	N.D.	--
1,2,4,5-Tetrachlorobenzene	95-94-3	N.D.	--
Pentachlorobenzene	608-93-5	N.D.	--
Hexachlorobenzene	1198-74-1	N.D.	--
2-Chlorotoluene	95-49-8	N.D.	--
3-Chlorotoluene	108-41-8	N.D.	--
4-Chlorotoluene	106-43-4	N.D.	--
2,3-Dichlorotoluene	32768-54-0	N.D.	--
3,4-Dichlorotoluene	95-75-0	N.D.	--
2,4-Dichlorotoluene	95-73-8	N.D.	--
2,5-Dichlorotoluene	19398-61-9	N.D.	--
2,6-Dichlorotoluene	118-69-4	N.D.	--
3,5-Dichlorotoluene	25186-47-4	N.D.	--
2,3,4-trichlorophenol	7359-72-0	N.D.	
2,3,6-Trichlorotoluene	2077-46-5	N.D.	--
2,4,5-Trichlorotoluene	6639-30-1	N.D.	--
2,4,6-trichlorotoluene	23749-65-7	N.D.	--
3,4,5-trichlorotoluene	21472-86-6	N.D.	--
2,3,4,5-tetrachlorotoluene	1006-32-2	N.D.	--
2,3,4,6-tetrachlorotoluene	875-40-1	N.D.	--
Pentachlorotoluene	877-11-2	N.D.	--
α,α,α -Trichlorotoluene	98-07-7	N.D.	--
$\alpha,2,6$ -Trichlorotoluene	2014-83-7	N.D.	--
$\alpha,2,4$ -Trichlorotoluene	94-99-5	N.D.	--



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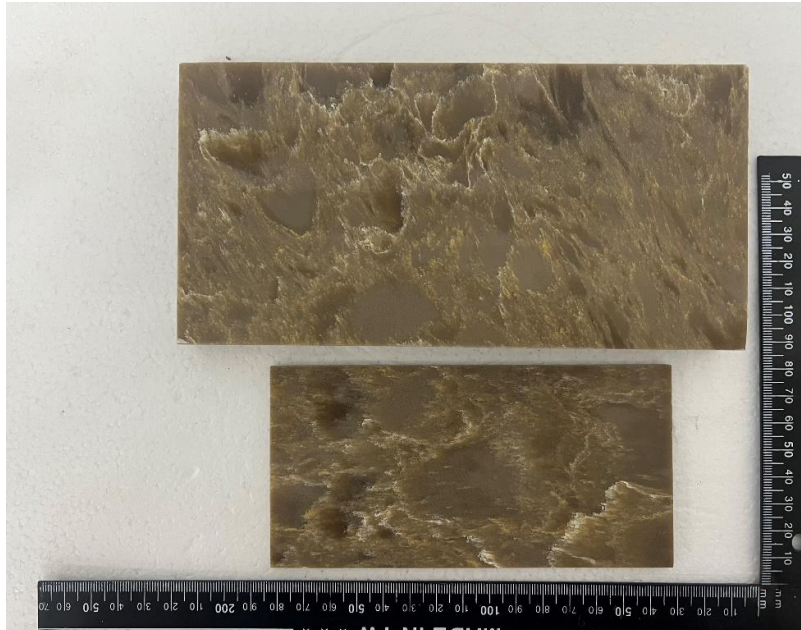
α ,3,4-Trichlorotoluene	102-47-6	N.D.	--
α , α , α -2- Tetrachlorotoluene	2136-89-2	N.D.	--
α , α , α -4- Tetrachlorotoluene	5216-25-1	N.D.	--
α , α ,2,6-Tetrachlorotoluene	81-19-6	N.D.	--

Note(s):

1. N.D. = Not Detected (< Reporting Limit)
2. Reporting limit = 0.1 mg/kg



SAMPLE PHOTO(S):



Sample: Quartz stone





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Customer inquiries, please contact:

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A handwritten signature in blue ink, appearing to be "Phan Hoang Nhut".

Phan Hoang Nhut
Senior Executive – Customer Service
Reviewer

A handwritten signature in blue ink, appearing to be "Tran Thi Lien".

Tran Thi Lien
Manager – Hardlines Laboratory
Authorizer



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Effective 01 December 2022

-- END OF TEST REPORT --