

**Test Report No. VNT/H/23/000309**  
**Dated MAR. 24, 2023**



Vietnam

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**Applicant** : **ROYAL MANUFACTURE AND INVESTMENT JOINT STOCK COMPANY**

**Address** : Road 8, Nhon Trach II Industrial Park –  
Nhon Phu, Hiep Phuoc Town, Nhon Trach  
District, Dong Nai Province, Vietnam

**Attention** : Luu Thu Hoa

**Received Date** : Mar. 20, 2023

**Test Period** : From Mar. 20, 2023 to Mar. 24, 2023

**Sample Description** : Porcelain Tile

**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 8, Nhon Trach II Industrial Park – Nhon  
Phu, Hiep Phuoc Town, Nhon Trach District,  
Dong Nai Province, Vietnam

**Country Of Destination** : /

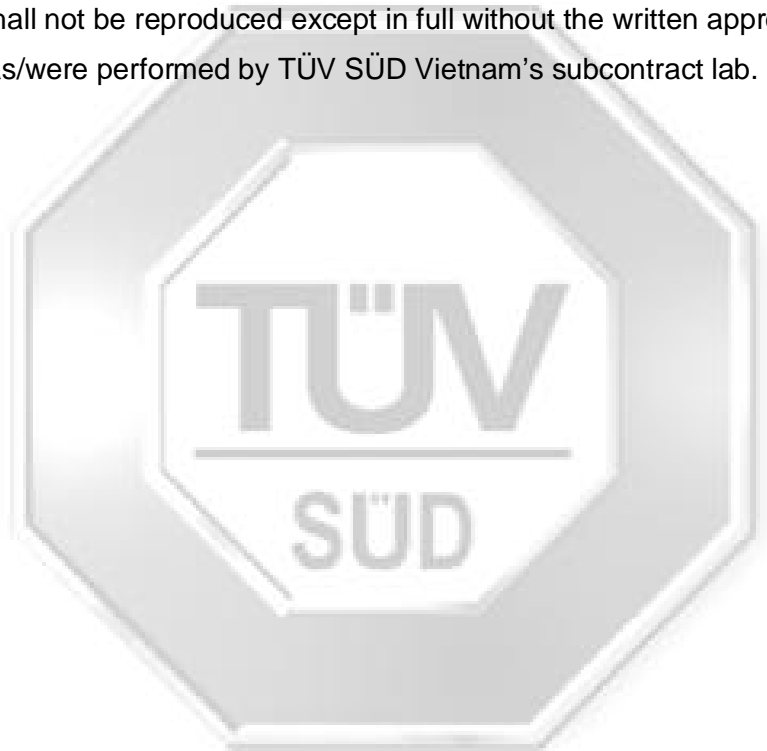
**Standard/Testing Requirement** : Test parameters chosen by customer:  
Perfluoroalkyl and Polyfluoroalkyl substances  
(PFASs)

**Result summary/ conclusion:**

Test parameter(s)	Conclusion
Perfluoroalkyl and Polyfluoroalkyl substances (PFASs) <sup>(*)</sup>	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.
- (\*) The test(s) was/were performed by TÜV SÜD Vietnam's subcontract lab.





**MATERIAL ANALYSIS (AS IDENTIFIED BY LAB)**

Sample No.	Material	Color	Mat. No.
Sample 1	Porcelain Tile (As client's declaration)	Grey/Light brown	001

**TEST RESULT(S):**

**Perfluoroalkyl and Polyfluoroalkyl substances (PFASs)\***

Test method: Reference to CEN/TS 15968:2014. Determination by LC-MS-MS

Test Parameter	CAS No.	Result [ppb]
		001
Perfluoroalkyl and Polyfluoroalkyl substances (PFASs)*	--	N.D.

Note(s):

1. ppb (part per billion) =  $\mu\text{g/kg}$  (microgram per kilogram)
2. N.D. = Not Detected (< Reporting limit)
3. (\*) The test(s) was/were performed by TÜV SÜD Vietnam's subcontract lab.

**Full list of tested PFASs:**

No.	Substance Name	CAS No.	Unit	Reporting limit
1	Perfluorooctanesulfonic acid (PFOS)	1763-23-1	ppb	10
2	Perfluorooctanesulfonic acid, potassium salt (PFOS-K)	2795-39-3	ppb	10
3	Perfluorooctanesulfonic acid, lithium salt (PFOS-Li)	29457-72-5	ppb	10
4	Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH <sub>4</sub> )	29081-56-9	ppb	10
5	Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) <sub>2</sub> )	70225-14-8	ppb	10
6	Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C <sub>2</sub> H <sub>5</sub> ) <sub>4</sub> )	56773-42-3	ppb	10
7	N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA)	4151-50-2	ppb	25
8	N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA)	31506-32-8	ppb	25
9	2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE)	1691-99-2	ppb	25
10	2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE)	24448-09-7	ppb	25
11	Perfluoro-1-octanesulfonyl fluoride (POSF)	307-35-7	ppb	50
12	Perfluorooctane sulfonamide (PFOSA)	754-91-6	ppb	25
13	Didecyltrimethylammonium perfluorooctane sulfonate (PFOS-N(C <sub>10</sub> H <sub>21</sub> ) <sub>2</sub> (CH <sub>3</sub> ) <sub>3</sub> )	251099-16-8	ppb	50
14	Perfluorooctanoic acid (PFOA)	335-67-1	ppb	25
15	Sodium perfluorooctanoate (PFOA-Na)	335-95-5	ppb	25
16	Potassium perfluorooctanoate (PFOA-K)	2395-00-8	ppb	25
17	Silver perfluorooctanoate (PFOA-Ag)	335-93-3	ppb	25
18	Perfluorooctanoyl fluoride (PFOA-F)	335-66-0	ppb	25
19	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	ppb	25
20	Perfluorobutane sulfonate K-salt(L-PFBS)	29420-49-3	ppb	50
21	Methyl perfluorooctanoate (Me-PFOA)	376-27-2	ppb	50
22	Ethyl perfluorooctanoate (Et-PFOA)	3108-24-5	ppb	50
23	2-Perfluorooctylethanol (8:2 FTOH)	678-39-7	ppb	50
24	Perfluorohexanesulfonate Na-salt(L-PFHxS)	82382-12-5	ppb	50
25	1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9	ppb	50
26	2H,2H,3H,3H Perfluoroundecanoic acid (4HPFUnA)	34598 -33 -9	ppb	50
27	1H,1H,2H,2H Perfluorooctylacrylate (6:2 FTA)	17527-29-6	ppb	50
28	1H,1H,2H,2H Perfluorododecylacrylate (10:2 FTA)	17741-60-5	ppb	50
29	1H,1H,2H,2H Perfluoro 1 hexanol (4:2 FTOH)	2043-47-2	ppb	50
30	1H,1H,2H,2H Perfluoro 1 octanol (6:2 FTOH)	647-42-7	ppb	50
31	1H,1H,2H,2H Perfluoro 1 dodecanol (10:2 FTOH)	865-86-1	ppb	50
32	Perfluorohexanoic acid (PFHxA)	307-24-4	ppb	50
33	Perfluoroheptanoic acid (PFHpA)	375-85-9	ppb	50
34	1,1,2,2,3,3,4,4,4nonafluorobutane-1sulphonic acid (PFBS)	375-73-5	ppb	50
35	Perfluorohexanesulfonic acid (PFHxS)	355-46-4	ppb	50
36	Perfluoroheptanesulfonic acid (PFHpS)	375-92-8	ppb	50
37	Henicosfluoroundecanoic acid (PFUnA)	2058-94-8	ppb	25
38	Perfluorododecanoic Acid (PFDoA)	307-55-1	ppb	25
39	Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	ppb	25



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40	Perfluorotetradecanoic acid (PFTeDA)	376-06-7	ppb	25
41	Henicosafuorodecane sulfonic Acid (PFDS)	335-77-3/ 126105-34-8	ppb	50
42	1H,1H,2H,2H-Perfluorooctanesulfonic acid (H4PFOS;6:2)	27619-97-2	ppb	50
43	Heptafluorobutyric acid (PFBA)	375-22-4	ppb	50
44	Perfluoropentanoic acid (PFPA)	2706-90-3	ppb	50
45	Perfluoro-n-nonanoic Acid (PFNA)	375-95-1	ppb	25
46	Perfluoro-n-decanoic Acid (PFDA)	335-76-2	ppb	25
47	Perfluoroheptanesulfonate Na-salt(L-PFHpS)	68555-66-8	ppb	50
48	Perfluorodecanesulfonate Na-salt(L-PFDS)	2806-15-7	ppb	50
49	Perfluorohexanesulfonic potassium salt	3871-99-6	ppb	50
50	Ammonium perfluorononate(APFN)	4149-60-4	ppb	25
51	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	ppb	50
52	1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9	ppb	50
53	Perfluoro 1 iodooctane (PFOI)	507-63-1	ppb	50
54	Perfluorodecanesulfonate K salt (PFDS K)+	2806-16-8	ppb	50
55	Perfluorohexanesulfonate K salt (PFHxS K)+	3871 -99 -6	ppb	50
56	Perfluoroaliphatic Dean sulfonate salt of NH4 (PFDS NH <sub>4</sub> )+	67906 -42 -7	ppb	50
57	Perfluorononanoate Na Salt (PFNA-Na)+	21049-39-8	ppb	25
58	Perfluorodecanoate Na salt (PFDA Na)+	3830-45-3	ppb	25
59	Perfluorodecanoate ammonium salt (APFDA)+	3108-42-7	ppb	25
60	Perfluoro 3,7 dimethyloctanoic Acid (PF 3,7 DMOA)	172155-07-6	ppb	50
61	7H Dodecanefluoroheptane Acid (HPFHpA)	1546 -95- 8	ppb	50
62	2H,2H Perfluorodecane Acid (H2PFDA)	882489-14-7	ppb	100



**SAMPLE PHOTO(S):**



Sample: Porcelain Tile



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**Customer inquiries, please contact:**

Nhut Phan, Tel: +84 28 6267 8507, Ext: 123; email: [hoang-nhut.phan@tuvsud.com](mailto:hoang-nhut.phan@tuvsud.com)

A blue ink signature of Phan Hoang Nhut.

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Phan Hoang Nhut  
Senior Executive – Customer Service  
Reviewer

A blue ink signature of Tran Thi Lien.

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Tran Thi Lien  
Manager – Hardlines Laboratory  
Authorizer





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Effective 01 December 2022

-- END OF TEST REPORT --