

TEST REPORT

APPLICANT : QIVATION COMPANY LIMITED
ADDRESS : FLAT 907, SILVERCORD TOWER 2, 30 CANTON ROAD, TSIM SHA TSUI, KLN.
TESTED SAMPLE DESCRIPTION : PLASTIC COATED WITH QIVATION Q GENERAL NANO PHOTOCATALYST COATING
TESTED STYLE / ITEM NO. : QIVATION Q GENERAL NANO PHOTOCATALYST COATING
SUPPLIER : QIVATION CO LTD
COUNTRY OF ORIGIN : JAPAN
COUNTRY OF DESTINATION : NA
SAMPLE RECEIVED DATE : SEP. 26, 2023
TEST PERIOD : SEP. 26, 2023 TO OCT. 20, 2023
RESULT SUMMARY :

REGULATION OR PROTOCOL	CONCLUSION	VERSION OF REGULATION OR PROTOCOL
CDPH	PASS	CDPH/EHLB/Standard Method V1.2 (January 2017)

*****FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)*****

SIGNED FOR AND ON BEHALF OF
EUROFINS TESTING TECHNOLOGY (SHENZHEN) CO., LTD.



James Luo
Senior VOC Testing Engineer



Jack Lu
Senior Operations Manager



The above sample(s) and sample information was/were submitted and identified on behalf of the applicant. Eurofins will not be liable for the authenticity of the information. This test report is valid for the tested sample only. Without permission of the test center this test report is not permitted to be duplicated in extracts.

Unless otherwise required by the applicant or method/regulation, decision rule in this report did not consider the measurement uncertainty.

Test Method

Method	Principle	Parameter	Detection Limit	Uncertainty	
Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2(Emission testing method for California Specification 01350)	TDS GC/MS	VOC	1 µg/m ³ 2 µg/m ³ 5 µg/m ³	17.5% (RSD) U = 2 x RSD= 35%	
	HPLC/DAD	Volatile aldehydes	2 µg/m ³	16% (RSD) U = 2 x RSD= 32%	
Test chamber parameter					
Chamber volume (L):	119	Temperature (°C):	23	Relative humidity (%):	50
Inlet gas flow rate(m ³ /h)	0.12	Loading ratio (m ² /m ³)	1	Tested specimen area(m ²)	0.12
Conditioning start date	28/9/2023	Chamber test start date	8/10/2023		
Test condition: Sample stayed in test chamber during the whole 14 days testing period.					
Sample preparation					
Edges and back covered with aluminum foil.					

TO BE CONTINUED

Eurofins Testing Technology (Shenzhen) Co., Ltd.

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Results

Individual VOC and Aldehyde Concentration at 96 hours.

No.	Compound Name	CAS No.	Chamber Concentration ($\mu\text{g}/\text{m}^3$)	Emission Factor ($\mu\text{g}/(\text{m}^2\cdot\text{h})$)	Estimated Indoor Air Concentration ($\mu\text{g}/\text{m}^3$)		Allowable Concentration ($\mu\text{g}/\text{m}^3$)
					Classroom	Office	
1	Acetaldehyde	75-07-0	<2	-	-	-	70
2	Benzene	71-43-2	<1	-	-	-	1.5
3	Carbon disulfide	75-15-0	<2	-	-	-	400
4	Carbon tetrachloride	56-23-5	<2	-	-	-	20
5	Chlorobenzene	108-90-7	<2	-	-	-	500
6	Chloroform	67-66-3	<2	-	-	-	150
7	Dichlorobenzene (1,4-)	106-46-7	<2	-	-	-	400
8	Dichloroethylene (1,1)	75-35-4	<2	-	-	-	35
9	Dimethylformamide (N,N-)	68-12-2	<2	-	-	-	40
10	Dioxane (1,4-)	123-91-1	<2	-	-	-	1500
11	Epichlorohydrin	106-89-8	<1	-	-	-	1.5
12	Ethylbenzene	100-41-4	<2	-	-	-	1000
13	Ethylene glycol	107-21-1	<2	-	-	-	200
14	Ethylene glycol monoethyl ether	110-80-5	<2	-	-	-	35
15	Ethylene glycol monoethyl ether acetate	111-15-9	<2	-	-	-	150
16	Ethylene glycol monomethyl ether	109-86-4	<2	-	-	-	30
17	Ethylene glycol monomethyl ether acetate	110-49-6	<2	-	-	-	45
18	Formaldehyde	50-00-0	<2	-	-	-	9
19	Hexane (n-)	110-54-3	<2	-	-	-	3500
20	Isophorone	78-59-1	<2	-	-	-	1000
21	Isopropanol	67-63-0	<2	-	-	-	3500
22	Methyl chloroform	71-55-6	<2	-	-	-	500
23	Methylene chloride	75-09-2	<2	-	-	-	200
24	Methyl <i>t</i> -butyl ether	1634-04-4	<2	-	-	-	4000
25	Naphthalene	91-20-3	<2	-	-	-	4.5
26	Phenol	108-95-2	<2	-	-	-	100

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No.	Compound Name	CAS No.	Chamber Concentration ($\mu\text{g}/\text{m}^3$)	Emission Factor ($\mu\text{g}/(\text{m}^2\cdot\text{h})$)	Estimated Indoor Air Concentration ($\mu\text{g}/\text{m}^3$)		Allowable Concentration ($\mu\text{g}/\text{m}^3$)
27	Propylene glycol monomethyl ether	107-98-2	<2	-	-	-	3500
28	Styrene	100-42-5	<2	-	-	-	450
29	Tetrachloroethylene	127-18-4	<2	-	-	-	17.5
30	Toluene	108-88-3	<2	-	-	-	150
31	Trichloroethylene	79-01-6	<2	-	-	-	300
32	Vinyl acetate	108-05-4	<2	-	-	-	100
33	Xylenes, technical mixture (m-, o-, p-xylene combined)	108-38-3, 95-47-6, 106-42-3	<2	-	-	-	350

Formaldehyde and TVOC Concentrations at 24, 48 and 96 hours.

	Elapsed Time (hours)	Chamber Concentration ($\mu\text{g}/\text{m}^3$)	Emission Factor ($\mu\text{g}/(\text{m}^2\cdot\text{h})$)	Estimated Indoor Air Concentration ($\mu\text{g}/\text{m}^3$)	
				Classroom	Office
Formaldehyde	24	<2	-	-	-
	48	<2	-	-	-
	96	<2	-	-	-
TVOC	24	<5	-	-	-
	48	<5	-	-	-
	96	<5	-	-	-

Remark:

- < Means less than
- "-" in the list of Emission Factor and Estimated Indoor Air Concentration, it means not applicable when the Chamber Concentration less than the detection Limit.

This VOCs test covered only substances that can be adsorbed on Tenax-TA and that can be thermally desorbed and analyzed by gas chromatography mass spectrometric detector. If other emission occurred then these could not be monitored or with limited reliability only. The method is not optimal for very volatile compounds. For these substances small results and a higher uncertainty in the measurement cannot be excluded. VOCs without pure standards were identified by comparison with a mass spectrum obtained from a library. Calibrated as toluene equivalent.

Note:

The chamber test and analyses were done in Eurofins Testing Technology (Shenzhen) Co., Ltd.

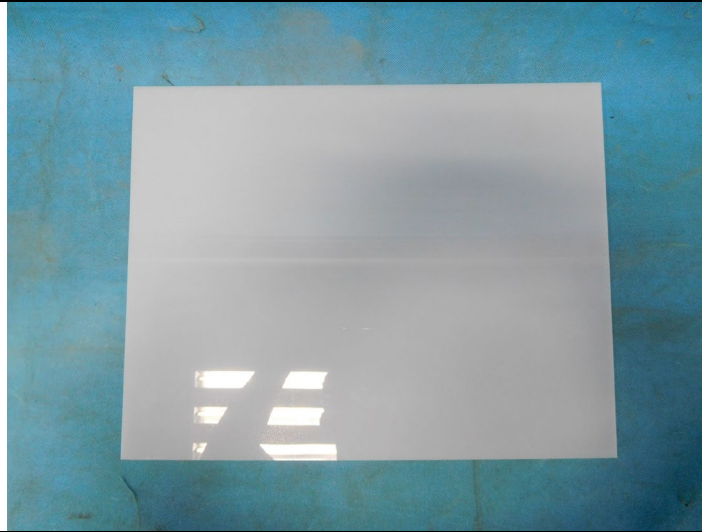
Other Information / Remark:

N/A

TO BE CONTINUED

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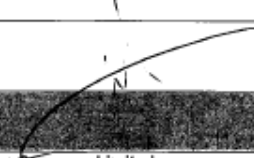

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Photo Attachment**PLASTIC COATED WITH QIVATION Q GENERAL NANO PHOTOCATALYST COATING**

Chain of Custody



Chain of Custody

Manufacturer/Company 生产商/公司			
Name 名称	Qivation Company Limited	Street Address 详细地址	Flat 907, Silvercord Tower 2, 30 Canton Road, Tsim Sha Tsui, Kln.
City 城市	Hong Kong	State/Province 州/省	
Country 国家		Zip/Postal Code 邮编	
Contact Name 联系人	Andre Lee	Title 职位	Product Director
Phone Number 手机号码	852-6650 8023	E-mail Address 邮件地址	lee@qivation.com
Sample Details 样品信息			
Sample ID 样品编号		Product Category 产品类型	Plastic plate
Product Name 产品名	Plastic plate with Qivation TiO2 coating	Product Subcategory (if applicable) 产品类型细分 (如果适用)	
Manufacturers Identification Number 制造商识别号	QG10001	Date Manufactured 生产日期	21-Sep-2023
Batch N°. 批号	092023	Article N°. 款号	QG10001
Sample collector (Name, company, telephone): 采样人 (含姓名, 公司, 电话)	Qivation Company Limited Andre Lee 852-66508023	Sample Collection Location 采样地址	Flat 907, Silvercord Tower 2, 30 Canton Road, Tsim Sha Tsui, Kln.
Number of Sample Pieces 采样数量	5	Sample Collection Date and Time 采样日期和时间	21-Sep-2023
Signature of sample collector 采样人签名			
Shipping Details 发货信息			
Packed By (Name, company, telephone): 样品打包人 (含姓名, 公司, 电话)	Qivation Company Limited	Shipping Date and Time 样品发出日期和时间	25-Sep-2023
Carrier 承运人	SF Express	Airbill Number 空运单号	SF6026656594519
Signature of sample packer 打包人签名			

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 第1页 共2页PAGE 1 OF 2



Laboratory Details 实验室信息			
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City 城市	Shenzhen	State/Province 州/省	Guangdong
Country 国家	China	Zip/Postal Code 邮编	518101
Phone Number 电话	+86 755 8358 5700	Fax Number 传真	+86 755-8358 5701
Received By 样品接收人	<i>James Leo</i>	Received Date and Time 接收日期和时间	2023/9/26
Condition of Shipping Package 包裹是否完好	Packing in good condition	Condition of Sample 样品是否完好	Sample in good condition
Assigned Laboratory Material tracking Number 实验室样品编号	110-2309-01762	Types of Air-tight Containers or Seals 样品容器/密封方式	carton packing
Signature of sample recipient 样品接收人签名	<i>James Leo</i>		
Further links in chain of custody (Name, function, company, telephone) 监管链中其他相关人 (含姓名, 功能, 公司, 电话)	N/A		
Signature	N/A		
Further links in chain of custody (Name, function, company, telephone) 监管链中其他相关人 (含姓名, 功能, 公司, 电话)	N/A		
Signature	N/A		

END OF THE REPORT