Released by UL Environment

Date Issued: March 25, 2019

Product ID #: 1000634152-2105207

Test Report #: 1000634152-2105207

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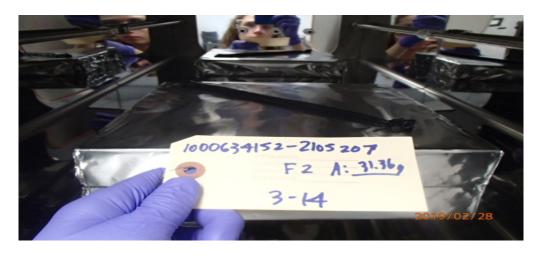


INDOOR AIR (	INDOOR AIR QUALITY EVALUATION FOLLOWING THE REQUIREMENTS OF CDPH/EHLB/STANDARD METHOD				
Product Description	DOWSIL™ 756 SMS Building Sealant				
Customer Information	DOW SILICONES CORP Kelly Allore 2200 W Salzburg Rd Midland MI 48686 USA				
Testing Laboratory	2211 Newmarket Parkway, Suite 106, Mar	ietta, GA 30067-9399 USA			
Product Category	Adhesive/Sealant				
Product Sub-Category	Bead Adhesive				
Date Received	February 20, 2019				
Test Description	The product was received by UL Environment as packaged and shipped by the customer. The package was visually inspected and stored in a controlled environment immediately following sample check-in. Just prior to loading, a 3/8" wide bead 11.5" long was applied to a foil-wrapped plate. The sample was immediately placed inside the environmental chamber, and tested according to the specified protocol.				
Test Date	2/28/2019 - 3/14/2019				
Product Area Exposed	length = 0.292 m				
Chamber Volume	0.0852 m³				
Product Loading Ratio	3.43 m/m³				
Test Chamber Conditions	Air change rate: 1.00 ± 0.05 1/h Inlet air flow rate: 0.0852 ± 0.004 m³/h  Temperature: 22.2°C - 23.8°C* Relative Humidity: 50% RH ± 5%				
Test Method	Chemical Emissions from Indoor Sources using Environmental Chambers Version 1.2.				
Released by	Allyson M. McFry Chemistry Laboratory Director				

<sup>\*</sup>The temperature range specification is  $23^{\circ}C \pm 1^{\circ}$ . The actual temperature range listed above may vary slightly. If the range is outside this specification, data was reviewed to ensure a negative impact did not occur.

This test is accredited under the laboratory's ISO/IEC 17025 accreditation issued by ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation AT-1297.

#### PHOTOGRAPH OF SAMPLE



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**RESULTS SUMMARY** 

Product Description  DOWSIL™ 756 SMS Building Sealant					
Environment	Product Usage	Product Surface Area	Room Volume	Ventilation Rate (ACH)	Product Compliance?
Classroom	Wallboard and Panel	266 m	231 m³	0.82	Yes
Office	Wallboard and	89.6 m	30.6 m³	0.68	Yes

#### PROJECT DESCRIPTION

The product was monitored for emissions of TVOC, individual VOCs, formaldehyde and other aldehydes over the 96-hour test period. Measurements were made and predicted exposures were calculated according to the CA Section 01350 protocol. As specified in this protocol, the results at 96 hours, after 10 days of conditioning, were compared to ½ (one-half) the current Chronic Reference Exposure Levels (CRELs), as adopted from the California OEHHA list. All identified VOCs were also compared to the California-EPA OEHHA Proposition 65 list and the California-EPA Air Resource Board list of Toxic Air Contaminants (TACs).

### Report Outline:

Table 1	Comparison of Data To Method Requirements
Table 2	Chamber Concentrations and Emission Factors
Table 3	Most Abundant Compounds
Table 4	VOC Predicted Air Concentrations And Regulatory Information
Chain of Custody	Chain of Custody

For UL Environment's technical references and resources click here or https://industries.ul.com/wpcontent/uploads/sites/2/2018/02/Technical-references-and-resources.pdf For Product Evaluation Methodologies information click here or https://industries.ul.com/wp-

content/uploads/sites/2/2018/03/ProductEvaluationMethodologies-PE.pdf

For Quality Control Program or Environmental Chamber Evaluations information click here or https://industries.ul.com/wpcontent/uploads/sites/2/2018/02/Quality-Control-Procedures.pdf

For RSD, Quality Assurance Report or other quality documents, Request here or contact ULE.

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## TABLE 1

Product Description DOWSIL™ 756 SMS Building Sealant							
COMPARISON OF	F DATA TO	METHOD	REQUIREMENTS A	AT 96 HOURS F	OLLOWING 10 DAY	S OF CONDITION	ING
Compound	CAS Number	½ CREL (µg/m³)	Chamber Concentration (µg/m³)	Emission Factor <sup>††</sup> (µg/m•hr)	Classroom Predicted Concentration (µg/m³)**	Office Predicted Concentration (µg/m³)**	Meets ½ CREL? (Classroom/ Office)
Acetaldehyde	75-07-0	70	BQL	BQL	BQL	BQL	Yes
Benzene	71-43-2	1.5	BQL	BQL	BQL	BQL	Yes
Carbon disulfide*	75-15-0	400	BQL	BQL	BQL	BQL	Yes
Carbon tetrachloride*	56-23-5	20	BQL	BQL	BQL	BQL	Yes
Chlorobenzene	108-90-7	500	BQL	BQL	BQL	BQL	Yes
Chloroform*	67-66-3	150	BQL	BQL	BQL	BQL	Yes
Dichlorobenzene (1,4-)	106-46-7	400	BQL	BQL	BQL	BQL	Yes
Dichloroethylene (1,1)*	75-35-4	35	BQL	BQL	BQL	BQL	Yes
Dimethylformamide (N,N-)*	68-12-2	40	BQL	BQL	BQL	BQL	Yes
Dioxane (1,4-)	123-91-1	1,500	BQL	BQL	BQL	BQL	Yes
Epichlorohydrin	106-89-8	1.5	BQL	BQL	BQL	BQL	Yes
Ethylbenzene	100-41-4	1,000	BQL	BQL	BQL	BQL	Yes
Ethylene glycol	107-21-1	200	BQL	BQL	BQL	BQL	Yes
Ethylene glycol monoethyl ether acetate*	111-15-9	150	BQL	BQL	BQL	BQL	Yes
Ethylene glycol monoethyl ether*	110-80-5	35	BQL	BQL	BQL	BQL	Yes
Ethylene glycol monomethyl ether acetate*	110-49-6	45	BQL	BQL	BQL	BQL	Yes
Ethylene glycol monomethyl ether*	109-86-4	30	BQL	BQL	BQL	BQL	Yes
Formaldehyde	50-00-0	9.0***	BQL	BQL	BQL	BQL	Yes

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Product Description DOWSIL™ 756 SMS Building Sealant

#### COMPARISON OF DATA TO METHOD REQUIREMENTS AT 96 HOURS FOLLOWING 10 DAYS OF CONDITIONING

Compound	CAS Number	½ CREL (μg/m³)	Chamber Concentration (µg/m³)	Emission Factor <sup>††</sup> (µg/m•hr)	Classroom Predicted Concentration (µg/m³)**	Office Predicted Concentration (µg/m³)**	Meets ½ CREL? (Classroom/ Office)
Hexane (n-)	110-54-3	3,500	BQL	BQL	BQL	BQL	Yes
Isophorone*	78-59-1	1,000	BQL	BQL	BQL	BQL	Yes
Isopropanol	67-63-0	3,500	BQL	BQL	BQL	BQL	Yes
Methyl chloroform*	71-55-6	500	BQL	BQL	BQL	BQL	Yes
Methyl t-butyl ether	1634-04-4	4,000	BQL	BQL	BQL	BQL	Yes
Methylene chloride*	75-09-2	200	BQL	BQL	BQL	BQL	Yes
Naphthalene	91-20-3	4.5	BQL	BQL	BQL	BQL	Yes
Phenol	108-95-2	100	BQL	BQL	BQL	BQL	Yes
Propylene glycol monomethyl ether*	107-98-2	3,500	BQL	BQL	BQL	BQL	Yes
Styrene	100-42-5	450	BQL	BQL	BQL	BQL	Yes
Tetrachloroethylene (perchloroethylene)	127-18-4	17.5	BQL	BQL	BQL	BQL	Yes
Toluene	108-88-3	150	BQL	BQL	BQL	BQL	Yes
Trichloroethylene	79-01-6	300	BQL	BQL	BQL	BQL	Yes
Vinyl acetate	108-05-4	100	BQL	BQL	BQL	BQL	Yes
Xylenes (m-, o-, p-)	1330-20-7	350	BQL	BQL	BQL	BQL	Yes

BQL denotes below quantifiable level of 0.04 μg for individual VOCs, with the exceptions benzene and epichlorohydrin which have a QL of 0.02 μg, based on a standard 18 L air collection volume.

<sup>&</sup>lt;sup>††</sup>The emission factor (EF) is calculated from the chamber concentration (CC), the chamber air change rate (N<sub>c</sub>), the chamber volume (V<sub>c</sub>), and the product area exposed in the chamber (A<sub>c</sub>) as: EF = (CC\*V<sub>c</sub>\*N<sub>c</sub>)/A<sub>c</sub>.

<sup>\*</sup>Denotes compound is within volatility range of method but no calibration standard was available.

<sup>\*\*</sup>The predicted building exposure concentration (BC) is calculated from the emission factor (EF), the building air change rate ( $N_B$ ), the building room volume ( $V_B$ ), and the product area exposed in the building room ( $A_B$ ) as: BC = (EF\* $A_B$ )/( $V_B$ \* $N_B$ ). For more information on Predicted Concentration modeling parameters, click here.

<sup>\*\*\*</sup>Guidance value per CA Standard Method

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#### TABLE 2

Product Description	Product Description DOWSIL™ 756 SMS Building Sealant					
CHAMBER CONCENTRATIONS AND EMISSION FACTORS FOR TVOC AND FORMALDEHYDE AT 24, 48, AND 96 HOURS FOLLOWING 10 DAYS OF CONDITIONING						
Elapsed Exposure Hour After 10 Days Conditioning  Chamber Concentration (μg/m³)  Emission Factor <sup>††</sup> (μg/m•hr)						
TVOC†						
24	1,040	303				
48	936	273				
96	870	254				
Formaldehyde <sup>‡</sup>						
24	BQL BQL					
48	BQL	BQL				
96	BQL	BQL				

BQL denotes below quantifiable level of 2 µg/m<sup>3</sup>.

Exposure hours are nominal ( $\pm$  1 hour). <sup>†</sup>Defined as the sum of those VOCs that elute between the retention times of n-hexane ( $C_6$ ) and n-hexadecane ( $C_{16}$ ) on a non-polar capillary

GC column quantified based on a toluene response factor.

† Compound identified and quantified by DNPH derivitization and HPLC/UV analysis.

† The emission factor (EF) is calculated from the chamber concentration (CC), the chamber air change rate (N<sub>c</sub>), the chamber volume (V<sub>c</sub>), and the product area exposed in the chamber (A<sub>C</sub>) as: EF =  $(CC^*V_C^*N_C)/A_C$ .

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**TABLE 3** 

Product Description DOWSIL™ 756 SMS Building Sealant

# TEN MOST ABUNDANT IDENTIFIED INDIVIDUAL VOLATILE ORGANIC COMPOUNDS (VOCs) AND/OR ALDEHYDES AT 96 HOURS FOLLOWING 10 DAYS OF CONDITIONING

CAS Number	Compound	Chamber Concentration (µg/m³)	Emission Factor <sup>††</sup> (µg/m•hr)	Exposure Co	d Predicted oncentration** g/m³)
				Classroom	Office
	TVOC <sup>‡‡</sup>	870	254	356	1,090
541-02-6	Cyclopentasiloxane, decamethyl	302	88.2	124	380
540-97-6	Cyclohexasiloxane, dodecamethyl	221	64.5	90.6	278
556-67-2	Cyclotetrasiloxane, octamethyl	69.9	20.4	28.7	87.8
105-45-3	Butanoic acid, 3-oxo-, methyl ester*	65.6	19.1	26.8	82.3
96-29-7	2-Butanone, oxime*	60.5	17.6	24.7	75.8
3901-77-7	Cyclotrisiloxane, 2,4,6-triethenyl-2,4,6-trimethyl-*	34.7	10.1	14.2	43.5
1000458-03-9	2-Cyclohexyl-6-methyl-3-(4- methylbenzyl)imidazo[1,2-a]pyridine*	34.0	9.9	13.9	42.6
107-50-6	Cycloheptasiloxane, tetradecamethyl-*	23.9	7.0	9.8	30.1
1000415-93-2	1,3,5,7-Tetramethyl-1,3,5,7-tetravinylcyclotetrasiloxane*	22.0	6.4	9.0	27.6
1000453-81-0	N-Acetyl-S-(3-methylbutyl)-L-cysteine, 3-methylbutyl ester*	13.3	3.9	5.5	16.8
38370-06-8	5H-Chromeno[4,3-d]pyrimidin-5-one, 4-amino-2-(2-hydroxyphenyl)-*	11.5	3.4	4.8	14.6

Exposure hours are nominal (± 1 hour).

VOC data obtained by scanning GC/MS; identification of compound made by retention time and mass spectral characteristics.

<sup>&</sup>lt;sup>†</sup>Quantified using multipoint authentic standard curve. Other VOCs quantified relative to toluene.

<sup>\*</sup>Identification based on NIST mass spectral database only.

<sup>&</sup>lt;sup>‡</sup>Compound identified and quantified by DNPH derivitization and HPLC/UV analysis.

<sup>&</sup>lt;sup>††</sup>The emission factor (EF) is calculated from the chamber concentration (CC), the chamber air change rate (N<sub>C</sub>), the chamber volume (V<sub>C</sub>), and the product area exposed in the chamber (A<sub>C</sub>) as: EF =  $(CC^*V_C^*N_C)/A_C$ .

<sup>&</sup>lt;sup>‡‡</sup>Defined as the sum of those VOCs that elute between the retention times of n-hexane (C<sub>6</sub>) and n-hexadecane (C<sub>16</sub>) on a non-polar capillary GC column quantified based on a toluene response factor.

<sup>\*\*</sup>The predicted building exposure concentration (BC) is calculated from the emission factor (EF), the building air change rate (N<sub>B</sub>), the building room volume (V<sub>B</sub>), and the product area exposed in the building room (A<sub>B</sub>) as: BC = (EF\*A<sub>B</sub>)/(V<sub>B</sub>\*N<sub>B</sub>). For more information on Predicted Concentration modeling parameters, click here.

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#### **TABLE 4**

Pro	Product Description DOWSIL™ 756 SMS Building Sealant							
VOC PREDICTED AIR CONCENTRATIONS AND REGULATORY INFORMATION AT 96 HOURS FOLLOWING 10 DAYS OF CONDITIONING								
CAS		Chamber	Emission	Predicted Exposure Concentration**  ✓ Indicates Preser On List				
Number	Compound	Concentration (µg/m³)	Factor <sup>††</sup> (µg/m•hr)		/m³)	CA PROP	CA AIR	CREL
			0	Classroom	Office	65	TOXIC	
67-56-1	Methanol	2.0	0.6	0.8	2.6	✓()	√(IIA)	✓

<sup>†</sup>Quantified using multipoint authentic standard curve. Other VOCs quantified relative to toluene.

CAL Prop. 65: California Health and Welfare Agency, Proposition 65 Chemicals

- 1 = known to cause cancer
- 2 = known to cause reproductive toxicity

#### CAL Toxic Air Contaminant:

- 1) Substances identified as Toxic Air Contaminants, known to be emitted in California, with a full set of health values reviewed by the Scientific Review Panel.
- IIA) Substances identified as Toxic Air Contaminants, known to be emitted in California, with one or more health values under development by the Office of Environmental Health Hazard Assessment for review by the Scientific Review Panel.
- IIB) Substances NOT identified as Toxic Air Contaminants, known to be emitted in California, with one or more health values under development by the Office of Environmental Health Hazard Assessment for review by the Scientific Review Panel.
- III) Substances known to be emitted in California, and are NOMINATED for development of health values or additional health values.
- IVA) Substance identified as Toxic Air Contaminants, known to be emitted in California, and are TO BE EVALUATED for entry into Category III.
- IVB) Substance NOT identified as Toxic Air Contaminants, known to be emitted in California, and are TO BE EVALUATED for entry into Category III.
- V) Substance identified as Toxic Air Contaminants, and NOT KNOWN TO BE EMITTED from stationary source facilities in California based on information from the AB 2588 Air Toxic "Hot Spots" Program and the California Toxic Release Inventory.
- VI) Substances identified as Toxic Air Contaminants, NOT KNOWN TO BE EMITTED from stationary source facilities in California, and are active ingredients in pesticides in California.

Chronic REL: California Office of Environmental Health Hazard Assessment (OEHHA). Chronic Reference Exposure Levels

√ = Found in Listing

<sup>&</sup>lt;sup>‡</sup>Compound identified and quantified by DNPH derivitization and HPLC/UV analysis.

<sup>&</sup>lt;sup>††</sup>The emission factor (EF) is calculated from the chamber concentration (CC), the chamber air change rate (N<sub>C</sub>), the chamber volume (V<sub>C</sub>), and the product area exposed in the chamber (A<sub>C</sub>) as: EF = (CC\*V<sub>C</sub>\*N<sub>C</sub>)/A<sub>C</sub>.

<sup>\*\*</sup>The predicted building exposure concentration (BC) is calculated from the emission factor (EF), the building air change rate ( $N_B$ ), the building room volume ( $V_B$ ), and the product area exposed in the building room ( $A_B$ ) as: BC = (EF\* $A_B$ )/( $V_B$ \* $N_B$ ). For more information on Predicted Concentration modeling parameters, click here.

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 Product Description
 DOWSIL™ 756 SMS Building Sealant

#### **CHAIN OF CUSTODY**

INTE	RNAL Use Only	Description 2105207  Dowsil 756 SMS Building Sealant
Project # 100043	4152 - 2105207	451
	2.07-07	Customer: Dow Silicones Corp
Product #	The same of the same	Received Date: Aurora Project No.: 1000634152
Order # 12770	155	2010 (20-20 03.11:49 PM Oracle Project No.:
Task Line	UL BU	1 of 4
	OL BO	6.6
of		1000 27818
Rush Request - S		must confirm with Ul prior to submitting product. SUARD Test Information
	☐ Certification Test • Annual/In	
Test Type	☐ Quarterly Test • Year	Quarter Profile Study Test
Service Line		ENGUARD GOLD A Other CA 0135 ()
Test Group		74
Product Category	Adnesive seciants	Subcategory Bead Adhesive
Application	☐ Floor/Ceiling ☐ Panel	☐ Wall ☐ Work Surface ☐ Other:
Wet Products Only	Coverage Rate	Density Specific Gravity
<b>国际的企业</b>	Product a	nd Company Information
Product Description	756 3MS Building	SEA AM BLACK DOWS!
Manufacture ID#	J	
<b>Company Name</b>	DOW Silicones (	Date Manufactured mm/dd/yyyy  —St P. Contact Name Kelly Allyre
Service and	270 UMRGA PAUKWG	He 20 Job Title K. allove @ dow com
Address	Shepherduille Ky 4	Contact Phone
-	0.1	Contact Email
Collector Name	Col	lection Information  Date Collected mm/dd/vyvy
Collector Phone		Time Collected
Collector Signature		Collection Location
TE THEY SHOULD		ipping Information
Carrier	ups	Date Shipped mm/dd/377/ 8 - 17
Shipper Name Shipper Phone		Time Shipped
Shipper Signature		Air Bill # 1268181983 124798
	Sai	mple Submitted to
UL Environment (Mariett	<ul> <li>a) UL Verification Services (Guan Building A1, 3F, Nansha Science and Tec</li> </ul>	
211 Newmarket Pkwy Guite 106 Marietta, GA 30067, USA	Innovation Ctr. No. 25, South Huanshi Av Nansha District, Guangzhou 511458, Chi	venue. Via Europa, 9
Marietta, GA 30007, USA		sting Sample Disposition
		after report is issued if information below is not provided)
Return Shipping Co.	1	Customer Shipping Acct #
OF CHAIN STREET	Internal Use (	Only – Receiving Information
Receiver Name		Receiver Signature
Condition Upon Arrival	Acceptable	
Condition Notes		Receive Time 9.00 471
Completed By	Based On	Date



#### **VOC EMISSION RESULTS COMPARISON TO STANDARD**

Standard referenced: CDPH/EHLB/Standard Method V1.2 (January 2017) "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" (aka CA Section 01350).

#### PRODUCT SAMPLE INFORMATION

Manufacturer	Dow Silicones Corp
Product Description	DOWSIL™ 756 SMS Building Sealant
Product Type	N/A
Sample Identification	UL Environment's 1000634152-2105207
Manufactured Date	Not Provided
Test Completed Date	3/14/2019
UL Environment Report #	1000634152-2105207
Report Date	March 25, 2019

#### TEST RESULTS COMPARISON TO STANDARD CRITERIA

Environment	Classro	om	0	ffice
Surface Area	266 r	n	89	9.6 m
	Criterion Meets?		Criterion	Meets?
Individual VOC	≤ ½ CREL	Yes	≤ ½ CREL	Yes
Formaldehyde	≤ 9.0 µg/m³	Yes	≤ 9.0 µg/m³	Yes

Environment	Classroom	Office
Surface Area	266 m	89.6 m
TVOC	0.5 mg/m³ or less	Between 0.5 and 5.0 mg/m <sup>3</sup>

TVOC comparison is based on LEED BD+C: New Construction v4 (LEED v4), Indoor environmental quality (EQ) category/Low-emitting materials credit/Emissions and content requirements/General emissions evaluation. http://www.usqbc.org/node/2614095?return=/credits/new-construction/v4/indoor-environmental-quality

Reviewed By

Allysón McFry

Chemistry Laboratory Manager

Complete testing and data results are presented in UL Environment Report

Disclaimer: This Comparison affirms that: 1) the product sample was tested according to the referenced standard; 2) the measured VOC emissions were evaluated for the defined exposure scenario(s); and 3) if so indicated above that the results meet the criteria of the referenced standard(s). UL Environment did not select the samples, determine if the samples were representative of production samples, witness the production of test samples, or were we provided with information relative to the formulation or identification of component materials used in the test samples. The test results apply only to the actual samples tested. The issuance of this Comparison in no way implies Listing, Classification or Recognition by UL and does not authorize the use of UL Listing, Classification or Recognition Marks or any other reference to UL on the product or system. UL Environment authorizes the above named company to reproduce this Comparison provided it is reproduced in its entirety. The name, brand or marks of UL cannot be used in any packaging, advertising, promotion or marketing relating to the data in this Comparison, without UL's prior written permission. UL, its subsidiaries, employees and agents shall not be responsible to anyone for the use or nonuse of the information contained in this Comparison, and shall not incur any obligation or liability for damages, including consequential damages, arising out of or in connection with the use of, or inability to use, the information contained in this Comparison.