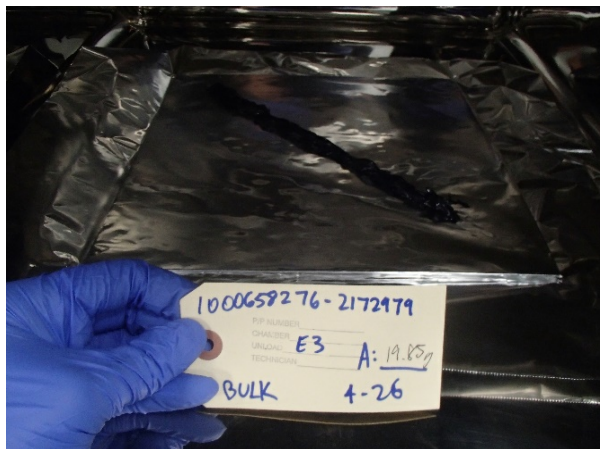




| INDOOR AIR QUALITY EVALUATION FOLLOWING THE REQUIREMENTS OF<br>CDPH/EHLB/STANDARD METHOD                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| Product Description                                                                                                                                                                                                      | DOWSIL™ 982 Silicone Insulating Glass Sealant                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                 |
| Customer Information                                                                                                                                                                                                     | DOW SILICONES CORP<br>KELLY ALLORE<br>2200 W SALZBURG RD<br>MIDLAND MI 48686<br>USA                                                                                                                                                                                                                                                                                                                                                                 |                                                                 |
| Testing Laboratory                                                                                                                                                                                                       | 2211 Newmarket Parkway, Suite 106, Marietta, GA 30067-9399 USA                                                                                                                                                                                                                                                                                                                                                                                      |                                                                 |
| Product Category                                                                                                                                                                                                         | Adhesives/Sealants                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 |
| Product Sub-Category                                                                                                                                                                                                     | Bead Adhesive                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                 |
| Date Received                                                                                                                                                                                                            | March 25, 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, the product was unpackaged and applied to a foil-wrapped metal tray as a bead measuring 11.5" long and 1" wide. The sample was placed inside the environmental chamber, and tested according to the specified protocol. |                                                                 |
| Test Date                                                                                                                                                                                                                | 4/12/2019 - 4/26/2019                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                 |
| Product Area Exposed                                                                                                                                                                                                     | length = 0.292 m                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                 |
| Chamber Volume                                                                                                                                                                                                           | 0.0867 m³                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 |
| Product Loading Ratio                                                                                                                                                                                                    | 3.37 m/m³                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                 |
| Test Chamber Conditions                                                                                                                                                                                                  | Air change rate: 1.00 ± 0.05 1/h<br>Inlet air flow rate: 0.0867 ± 0.004 m³/h                                                                                                                                                                                                                                                                                                                                                                        | Temperature: 23.0°C - 24.2°C*<br>Relative Humidity: 50% RH ± 5% |
| Test Method                                                                                                                                                                                                              | CDPH - CA Section 01350 <i>Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers</i> Version 1.2.                                                                                                                                                                                                                                                                  |                                                                 |
| Released by                                                                                                                                                                                                              | <br>Allyson M. McFry<br>Chemistry Laboratory Director                                                                                                                                                                                                                                                                                                            |                                                                 |
| *The temperature range specification is 23°C ± 1°. 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 and meets the requirements of ISO/IEC 17025 as verified by ANSI National Accreditation Board. Refer to certificate and scope of accreditation AT-1297.                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                 |

## PHOTOGRAPH OF SAMPLE



## RESULTS SUMMARY

| Product Description |               | DOWSIL™ 982 Silicone Insulating Glass Sealant |                     |                        |                     |
|---------------------|---------------|-----------------------------------------------|---------------------|------------------------|---------------------|
| Environment         | Product Usage | Product Surface Area                          | Room Volume         | Ventilation Rate (ACH) | Product Compliance? |
| Classroom           | Sealant       | 39.0 m                                        | 231 m <sup>3</sup>  | 0.82                   | Yes                 |
| Office              | Sealant       | 14.6 m                                        | 30.6 m <sup>3</sup> | 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          | <a href="#">Comparison of Data To Method Requirements</a>                   |
| Table 2          | <a href="#">Chamber Concentrations and Emission Factors</a>                 |
| Table 3          | <a href="#">Most Abundant Compounds</a>                                     |
| Table 4          | <a href="#">VOC Predicted Air Concentrations And Regulatory Information</a> |
| Chain of Custody | <a href="#">Chain of Custody</a>                                            |

For UL Environment's technical references and resources [click here](#) or <https://industries.ul.com/wp-content/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/wp-content/uploads/sites/2/2018/02/Quality-Control-Procedures.pdf>

For RSD, Quality Assurance Report or other quality documents, [Request](#) here or contact ULE.

**TABLE 1**

| Product Description                                                                     |            | DOWSIL™ 982 Silicone Insulating Glass 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†† (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                              |

| Product Description                                                                     |            | DOWSIL™ 982 Silicone Insulating Glass 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†† (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>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:  $EF = (CC \cdot V_c \cdot N_c) / A_c$ .

<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:  $BC = (EF \cdot A_B) / (V_B \cdot N_B)$ . For more information on Predicted Concentration modeling parameters, [click here](#).

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

**TABLE 2**

| Product Description                                                                                                                   |  | DOWSIL™ 982 Silicone Insulating Glass Sealant |                                            |
|---------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|--------------------------------------------|
| CHAMBER CONCENTRATIONS AND EMISSION FACTORS<br>FOR TVOC AND FORMALDEHYDE AT 24, 48, AND 96 HOURS<br>FOLLOWING 10 DAYS OF CONDITIONING |  |                                               |                                            |
| Elapsed Exposure<br>Hour After 10 Days Conditioning                                                                                   |  | Chamber Concentration<br>(µg/m³)              | Emission Factor <sup>††</sup><br>(µg/m•hr) |
| TVOC <sup>†</sup>                                                                                                                     |  |                                               |                                            |
| 24                                                                                                                                    |  | 677                                           | 201                                        |
| 48                                                                                                                                    |  | 651                                           | 193                                        |
| 96                                                                                                                                    |  | 593                                           | 176                                        |
| Formaldehyde <sup>‡</sup>                                                                                                             |  |                                               |                                            |
| 24                                                                                                                                    |  | BQL                                           | BQL                                        |
| 48                                                                                                                                    |  | BQL                                           | BQL                                        |
| 96                                                                                                                                    |  | BQL                                           | BQL                                        |

BQL denotes below quantifiable level of 2 µg/m³.

Exposure hours are nominal (± 1 hour).

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

<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:  $EF = (CC \cdot V_c \cdot N_c) / A_c$ .

**TABLE 3**

| Product Description                                                                                                                            |                                                                                  | DOWSIL™ 982 Silicone Insulating Glass Sealant |                                               |                                                             |        |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-------------------------------------------------------------|--------|
| TEN MOST ABUNDANT IDENTIFIED INDIVIDUAL<br>VOLATILE ORGANIC COMPOUNDS (VOCs) AND/OR ALDEHYDES<br>AT 96 HOURS FOLLOWING 10 DAYS OF CONDITIONING |                                                                                  |                                               |                                               |                                                             |        |
| CAS<br>Number                                                                                                                                  | Compound                                                                         | Chamber<br>Concentration<br>(µg/m³)           | Emission<br>Factor <sup>††</sup><br>(µg/m•hr) | Calculated Predicted<br>Exposure Concentration**<br>(µg/m³) |        |
|                                                                                                                                                |                                                                                  |                                               |                                               | Classroom                                                   | Office |
| ---                                                                                                                                            | TVOC <sup>‡‡</sup>                                                               | 593                                           | 176                                           | 36.3                                                        | 124    |
| 540-97-6                                                                                                                                       | Cyclohexasiloxane, dodecamethyl                                                  | 282                                           | 83.8                                          | 17.3                                                        | 58.8   |
| 541-05-9                                                                                                                                       | Cyclotrisiloxane, hexamethyl                                                     | 187                                           | 55.6                                          | 11.5                                                        | 39.0   |
| 107-50-6                                                                                                                                       | Cycloheptasiloxane,<br>tetradecamethyl-*                                         | 56.9                                          | 16.9                                          | 3.5                                                         | 11.9   |
| 541-02-6                                                                                                                                       | Cyclopentasiloxane, decamethyl                                                   | 33.5                                          | 10.0                                          | 2.1                                                         | 7.0    |
| 556-67-2                                                                                                                                       | Cyclotetrasiloxane, octamethyl                                                   | 18.8                                          | 5.6                                           | 1.2                                                         | 3.9    |
| 1066-42-8                                                                                                                                      | Silanediol, dimethyl-*                                                           | 12.1                                          | 3.6                                           | 0.7                                                         | 2.5    |
| 71-23-8                                                                                                                                        | 1-Propanol (Propyl alcohol)                                                      | 3.5                                           | 1.0                                           | 0.2                                                         | 0.7    |
| 1000292-79-6                                                                                                                                   | 15-Hydroxy-7-oxodehydroabietic<br>acid, methyl ester,15-trimethylsilyl<br>ether* | 2.7                                           | 0.8                                           | 0.2                                                         | 0.6    |

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>Quantified using multipoint authentic standard curve. Other VOCs quantified relative to toluene.

\*Identification based on NIST mass spectral database only.

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

<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:  $EF = (CC \cdot V_C \cdot N_C) / A_C$ .

<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.

\*\*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:  $BC = (EF \cdot A_B) / (V_B \cdot N_B)$ . For more information on Predicted Concentration modeling parameters, [click here](#).

**TABLE 4**

| Product Description                                                                                          |          | DOWSIL™ 982 Silicone Insulating Glass Sealant |                                   |                                                  |        |                                 |                 |      |
|--------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------|-----------------------------------|--------------------------------------------------|--------|---------------------------------|-----------------|------|
| VOC PREDICTED AIR CONCENTRATIONS AND REGULATORY INFORMATION<br>AT 96 HOURS FOLLOWING 10 DAYS OF CONDITIONING |          |                                               |                                   |                                                  |        |                                 |                 |      |
| CAS<br>Number                                                                                                | Compound | Chamber<br>Concentration<br>(µg/m³)           | Emission<br>Factor††<br>(µg/m•hr) | Predicted Exposure<br>Concentration**<br>(µg/m³) |        | ✓ Indicates Presence<br>On List |                 |      |
|                                                                                                              |          |                                               |                                   | Classroom                                        | Office | CA PROP<br>65                   | CA AIR<br>TOXIC | CREL |
| ---                                                                                                          | none     | ---                                           | ---                               | ---                                              | ---    | ---                             | ---             | ---  |

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

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

<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:  $EF = (CC \cdot V_c \cdot N_c) / A_c$ .

<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:  $BC = (EF \cdot A_B) / (V_B \cdot N_B)$ . For more information on Predicted Concentration modeling parameters, [click here](#).

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:

I) 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

|                            |                                               |
|----------------------------|-----------------------------------------------|
| <b>Product Description</b> | DOWSIL™ 982 Silicone Insulating Glass Sealant |
| <b>CHAIN OF CUSTODY</b>    |                                               |

|                                                                                                                                            |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------|
| <b>INTERNAL Use Only</b>                                                                                                                   |                                                                                                                                                                                                              | 2172979                                                                                                                               |                                                    |  |                                 |
| Project #                                                                                                                                  | 1000658276                                                                                                                                                                                                   | Description<br>DOWSIL 982 Silicone Insulating Glass Sealant                                                                           |                                                    |                                                                                     |                                 |
| Product #                                                                                                                                  | 2172979                                                                                                                                                                                                      | Customer: Dow Silicones Corp                                                                                                          |                                                    |                                                                                     |                                 |
| Order #                                                                                                                                    | 12720755                                                                                                                                                                                                     | Received Date: Aurora Project No.: 1000658276<br>Order No.: 12720755                                                                  |                                                    |                                                                                     |                                 |
| Task Line                                                                                                                                  | 1.1.5                                                                                                                                                                                                        | UL BU                                                                                                                                 | 2019-APR-08 04:15:40 PM Oracle Project No.: 1 of 4 |                                                                                     |                                 |
| of                                                                                                                                         |                                                                                                                                                                                                              | CUTDBE083                                                                                                                             |                                                    |                                                                                     |                                 |
| <input type="checkbox"/> <b>Rush Request – Subject to upcharge.</b> Customer must confirm with UL prior to submitting product.             |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| <b>GREENGUARD Test Information</b>                                                                                                         |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Test Type                                                                                                                                  | <input type="checkbox"/> Certification Test • Annual/Initial Year                                                                                                                                            |                                                                                                                                       | <input type="checkbox"/> Out-of-Scope Test         |                                                                                     |                                 |
|                                                                                                                                            | <input type="checkbox"/> Quarterly Test • Year Quarter                                                                                                                                                       |                                                                                                                                       | <input type="checkbox"/> Profile Study Test        |                                                                                     |                                 |
| Service Line                                                                                                                               | <input type="checkbox"/> GREENGUARD <input type="checkbox"/> GREENGUARD GOLD                                                                                                                                 |                                                                                                                                       | <input checked="" type="checkbox"/> Other CA01350  |                                                                                     |                                 |
| Test Group                                                                                                                                 |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Product Category                                                                                                                           | Subcategory                                                                                                                                                                                                  |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Application                                                                                                                                | <input type="checkbox"/> Floor/Ceiling                                                                                                                                                                       | <input type="checkbox"/> Panel                                                                                                        | <input type="checkbox"/> Wall                      | <input type="checkbox"/> Work Surface                                               | <input type="checkbox"/> Other: |
| Wet Products Only                                                                                                                          | Coverage Rate                                                                                                                                                                                                |                                                                                                                                       | Density                                            |                                                                                     | Specific Gravity                |
| <b>Product and Company Information</b>                                                                                                     |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Product Description                                                                                                                        | DOWSIL 982 Silicone Insulating Glass Sealant                                                                                                                                                                 |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Manufacture ID#                                                                                                                            |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Company Name                                                                                                                               | Dow Chemical                                                                                                                                                                                                 | Date Manufactured                                                                                                                     | mm/dd/yyyy                                         |                                                                                     |                                 |
|                                                                                                                                            |                                                                                                                                                                                                              | Contact Name                                                                                                                          | Kelly Allore                                       |                                                                                     |                                 |
| Address                                                                                                                                    | 760 Hodgenville Rd.<br>Elizabeth town, Ky. 42701                                                                                                                                                             | Job Title                                                                                                                             |                                                    |                                                                                     |                                 |
|                                                                                                                                            |                                                                                                                                                                                                              | Contact Phone                                                                                                                         |                                                    |                                                                                     |                                 |
|                                                                                                                                            |                                                                                                                                                                                                              | Contact Email                                                                                                                         | K.allore@dow.com                                   |                                                                                     |                                 |
| <b>Collection Information</b>                                                                                                              |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Collector Name                                                                                                                             |                                                                                                                                                                                                              | Date Collected                                                                                                                        | mm/dd/yyyy                                         |                                                                                     |                                 |
| Collector Phone                                                                                                                            |                                                                                                                                                                                                              | Time Collected                                                                                                                        |                                                    |                                                                                     |                                 |
| Collector Signature                                                                                                                        |                                                                                                                                                                                                              | Collection Location                                                                                                                   |                                                    |                                                                                     |                                 |
| <b>Shipping Information</b>                                                                                                                |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Carrier                                                                                                                                    | ups                                                                                                                                                                                                          |                                                                                                                                       | Date Shipped                                       | mm/dd/yyyy 3/22/19                                                                  |                                 |
| Shipper Name                                                                                                                               |                                                                                                                                                                                                              | Time Shipped                                                                                                                          |                                                    |                                                                                     |                                 |
| Shipper Phone                                                                                                                              |                                                                                                                                                                                                              | Air Bill #                                                                                                                            | 1E4487280369154852                                 |                                                                                     |                                 |
| Shipper Signature                                                                                                                          |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| <b>Sample Submitted to</b>                                                                                                                 |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| <input type="checkbox"/> UL Environment (Marietta)<br>2211 Newmarket Pkwy<br>Suite 106<br>Marietta, GA 30067, USA                          | <input type="checkbox"/> UL Verification Services (Guangzhou)<br>Building A1, 3F, Nansha Science and Technology<br>Innovation Ctr. No. 25, South Huanshi Avenue,<br>Nansha District, Guangzhou 511458, China | <input type="checkbox"/> UL International Italia S.r.l<br>ATTN: IAQ Laboratory<br>Via Europa, 9<br>I – 22060 – Cabiato (Como), Italia | <input type="checkbox"/> Other                     |                                                                                     |                                 |
| <b>Post Testing Sample Disposition</b><br>(Sample will be disposed of 30 days after report is issued if information below is not provided) |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Return Shipping Co.                                                                                                                        |                                                                                                                                                                                                              | Customer Shipping Acct #                                                                                                              |                                                    |                                                                                     |                                 |
| <b>Internal Use Only – Receiving Information</b>                                                                                           |                                                                                                                                                                                                              |                                                                                                                                       |                                                    |                                                                                     |                                 |
| Receiver Name                                                                                                                              | K. Allore                                                                                                                                                                                                    | Receiver Signature                                                                                                                    | K. Allore                                          |                                                                                     |                                 |
| Condition Upon Arrival                                                                                                                     | <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Not Acceptable                                                                                                                       | Receive Date                                                                                                                          | 3/25/19                                            |                                                                                     |                                 |
| Condition Notes                                                                                                                            |                                                                                                                                                                                                              | Receive Time                                                                                                                          | 1:06 PM                                            |                                                                                     |                                 |
| Completed By                                                                                                                               |                                                                                                                                                                                                              | Based On                                                                                                                              | Date                                               |                                                                                     |                                 |

00-EN-F0853 – Issue 5.0



## 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

|                                |                                               |
|--------------------------------|-----------------------------------------------|
| <b>Manufacturer</b>            | Dow Silicones Corp                            |
| <b>Product Description</b>     | DOWSIL™ 982 Silicone Insulating Glass Sealant |
| <b>Product Type</b>            | Adhesives/Sealants                            |
| <b>Sample Identification</b>   | UL Environment's 1000658276-2172979           |
| <b>Manufactured Date</b>       | Not Provided                                  |
| <b>Test Completed Date</b>     | 4/26/2019                                     |
| <b>UL Environment Report #</b> | 1000658276-2172979                            |
| <b>Report Date</b>             | May 3, 2019                                   |

### TEST RESULTS COMPARISON TO STANDARD CRITERIA

| <b>Environment</b>    | <b>Classroom</b> |               | <b>Office</b>    |               |
|-----------------------|------------------|---------------|------------------|---------------|
| <b>Surface Area</b>   | 39.0 m           |               | 14.6 m           |               |
|                       | <b>Criterion</b> | <b>Meets?</b> | <b>Criterion</b> | <b>Meets?</b> |
| <b>Individual VOC</b> | ≤ ½ CREL         | Yes           | ≤ ½ CREL         | Yes           |
| <b>Formaldehyde</b>   | ≤ 9.0 µg/m³      | Yes           | ≤ 9.0 µg/m³      | Yes           |

| <b>Environment</b>  | <b>Classroom</b>  | <b>Office</b>     |
|---------------------|-------------------|-------------------|
| <b>Surface Area</b> | 39.0 m            | 14.6 m            |
| <b>TVOC</b>         | 0.5 mg/m³ or less | 0.5 mg/m³ or less |

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.usgbc.org/node/2614095?return=/credits/new-construction/v4/indoor-environmental-quality>

|                    |                                                                                                                                      |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reviewed By</b> | <br>Allyson McFry<br>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.