



December 15, 2023

Michigan Department of EGLE
Air Quality Division
Grand Rapids District Office
350 Ottawa Avenue NW, Unit 10
Grand Rapids, MI 49503
EGLE-ROP@michigan.gov

cc: (email only) Chris Hare; MI Dept. of EGLE; Air Quality Division; Saginaw Bay District Office;
401 Ketchum Street Suite B; Bay City, MI 48708; harec@michigan.gov
(email only) Caryn Owens; MI Dept. of EGLE; Air Quality Division; Cadillac District Office;
120 West Chapin Street; Cadillac, MI 49601-2158; Owensc1@michigan.gov

DOW SILICONES CORPORATION RULE 216(2) CHANGE NOTIFICATION: EU515-01

Please find attached the notification forms required by Rule 216(2) for changes to Dow Silicones Corporation Renewable Operating Permit number MI-ROP-A4043-2019b.

On December 7, 2023, the emission unit involved in all activities associated with production, storage and transfer of Phenylmethyldichlorosilane (PhMeSiCl₂) and Diphenylmethylchlorosilane (Ph₂MeSiCl) (EU515-01) received special conditions associated with permit to install application no. 812-91E. Dow Silicones Corporation requests that these special conditions be included in the renewable operating permit.

Attached are the M-001, C-001 and AI-001 forms. If you have questions regarding this submittal, please contact Jim Alger at (989) 615-1901.

A handwritten signature in black ink that reads "Kristan Soto".

Kristan Soto
Responsible Care Leader
1790 Building, Washington Street
Midland, MI 48674
(989) 633-1809

Enclosures



Michigan Department of Environment, Great Lakes, and Energy - Air Quality Division

RENEWABLE OPERATING PERMIT APPLICATION C-001: CERTIFICATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to provide this information may result in civil and/or criminal penalties. Please type or print clearly.

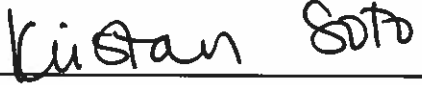
This form is completed and included as part of Renewable Operating Permit (ROP) initial and renewal applications, notifications of change, amendments, modifications, and additional information.

| | |
|-----------------|-----------|
| Form Type C-001 | SRN A4043 |
|-----------------|-----------|

| | |
|---|-------------------|
| Stationary Source Name Dow Silicones Corporation | |
| City Midland | County Midland |

| | |
|--|--|
| SUBMITTAL CERTIFICATION INFORMATION | |
| 1. Type of Submittal <i>Check only one box.</i> | |
| <input type="checkbox"/> Initial Application (Rule 210) | <input checked="" type="checkbox"/> Notification / Administrative Amendment / Modification (Rules 215/216) |
| <input type="checkbox"/> Renewal (Rule 210) | <input type="checkbox"/> Other, describe on AI-001 |
| 2. If this ROP has more than one Section, list the Section(s) that this Certification applies to _____ | |
| 3. Submittal Media <input checked="" type="checkbox"/> E-mail <input type="checkbox"/> FTP <input type="checkbox"/> Disk <input checked="" type="checkbox"/> Paper | |
| 4. Operator's Additional Information ID - Create an Additional Information (AI) ID that is used to provide supplemental information on AI-001 regarding a submittal. | |
| AI EU515-01 | |

| | |
|------------------------------|---|
| CONTACT INFORMATION | |
| Contact Name Jim Alger | Title Air Specialist |
| Phone number 989 615-1901 | E-mail address james.s.alger@dow.com |

| | | | | |
|--|-------------|-------------------|---------------------------------------|----------------|
| This form must be signed and dated by a Responsible Official. | | | | |
| Responsible Official Name Kristan Soto | | | Title EH&S Responsible Care Leader | |
| Mailing address 1790 Building, Washington Street | | | | |
| City Midland | State MI | ZIP Code 48674 | County Midland | Country USA |
| As a Responsible Official, I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate and complete. | | | | |
|  _____ Signature of Responsible Official | | | _____ 12/15/2023 Date | |



RENEWABLE OPERATING PERMIT M-001: RULE 215 CHANGE NOTIFICATION RULE 216 AMENDMENT/MODIFICATION APPLICATION

This information is required by Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment.

| | | |
|---|---|---|
| 1. SRN A4043 | 2. ROP Number MI-ROP-A4043-2019b | 3. County Midland |
| 4. Stationary Source Name Dow Silicones Corporation | | |
| 5. Location Address 3901 S. Saginaw Road | | 6. City Midland |
| <p>7. Submittal Type - <i>The submittal must meet the criteria for the box checked below. Check only one box. Attach a mark-up of the affected ROP pages for applications for Rule 216 changes.</i></p> <p><input type="checkbox"/> Rule 215(1) Notification of change. <i>Complete Items 8 – 10 and 14</i></p> <p><input type="checkbox"/> Rule 215(2) Notification of change. <i>Complete Items 8 – 10 and 14</i></p> <p><input type="checkbox"/> Rule 215(3) Notification of change. <i>Complete Items 8 – 11 and 14</i></p> <p><input type="checkbox"/> Rule 215(5) Notification of change. <i>Complete Items 8 – 10 and 14</i></p> <p><input type="checkbox"/> Rule 216(1)(a)(i)-(iv) Administrative Amendment. <i>Complete Items 8 – 10 and 14</i></p> <p><input type="checkbox"/> Rule 216(1)(a)(v) Administrative Amendment. <i>Complete Items 8 – 14. Results of testing, monitoring & recordkeeping must be submitted. See detailed instructions.</i></p> <p><input checked="" type="checkbox"/> Rule 216(2) Minor Modification. <i>Complete Items 8 – 12 and 14</i></p> <p><input type="checkbox"/> Rule 216(3) Significant Modification. <i>Complete Items 8 – 12 and 14, and provide any additional information needed on ROP application forms. See detailed instructions.</i></p> <p><input type="checkbox"/> Rule 216(4) State-Only Modification. <i>Complete Items 8 – 12 and 14</i></p> | | |
| 8. Effective date of the change. (MM/DD/YYYY) <i>See detailed instructions.</i> 12/29/2023 | | 9. Change in emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <p>10. Description of Change - <i>Describe any changes or additions to the ROP, including any changes in emissions and/or pollutants that will occur. If additional space is needed, complete an Additional Information form (AI-001).</i></p> <p>On December 7, 2023, Dow Silicones Corporation emission unit 515-01 received special conditions associated with permit to install application no. 812-91E. Dow Silicones Corporation requests that these special conditions be included in the renewable operating permit.</p> | | |
| 11. New Source Review Permit(s) to Install (PTI) associated with this application? | | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| If Yes, enter the PTI Number(s) 812-91E - - - - - | | |
| <p>12. Compliance Status - <i>A narrative compliance plan, including a schedule for compliance, must be submitted using an AI-001 if any of the following are checked No.</i></p> <p>a. Is the change identified above in compliance with the associated applicable requirement(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>b. Will the change identified above continue to be in compliance with the associated applicable requirement(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>c. If the change includes a future applicable requirement(s), will timely compliance be achieved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> | | |
| 13. Operator's Additional Information ID - <i>Create an Additional Information (AI) ID for the associated AI-001 form used to provide supplemental information.</i> | | AI EU515-01 |
| 14. Contact Name Jim Alger | Telephone No. (989) 615-1901 | E-mail Address james.s.alger@dow.com |
| 15. This submittal also updates the ROP renewal application submitted on ____/____/____ <i>(If yes, a mark-up of the affected pages of the ROP must be attached.)</i> | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A |

NOTE: A CERTIFICATION FORM (C-001) SIGNED BY A RESPONSIBLE OFFICIAL MUST ACCOMPANY ALL SUBMITTALS

For Assistance
Contact: 800-662-9278

www.michigan.gov/egle



RENEWABLE OPERATING PERMIT APPLICATION

AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

SRN: A4043

Section Number (if applicable):

1. Additional Information ID

AI-EU515-01

Additional Information

2. Is This Information Confidential?

 Yes No

EU515-01 is subject to CAM (40 CFR Part 64) for VOC. Therefore, the following CAM plan is being submitted as part of the application.

Please refer to the attached CAM plan.

Page of

I. BACKGROUND**A. Emission Unit**

Description: Production, storage, and transfer of Phenylmethyldichlorosilane (PhMeSiCl₂) and Diphenylmethylchlorosilane (Ph₂MeSiCl).

Identification: EU515-01

Facility: Dow Silicones Corporation
3901 S. Saginaw Rd
Midland, MI 48686

B. Applicable Regulation, Emission Limit, Monitoring Requirements

Permit Number: 812-91E

Emission Limits:

VOC: 4.6 lb/hr, R 336.1702(a)

Monitoring Requirements: 10530 Toluene Scrubber
HX-10453 Coolant Supply Temperature
HX-10541 Coolant Supply Temperature
HX-10657 Liquid Flow Rate
MgCl₂ Carbon Drum Weight Gain

Potential Pre-Control Emissions: 1,008 tons per year of VOC

C. Control Technology

Toluene Scrubber 10530
Condenser HX-10453
Condenser HX-10541
Condenser HX-10657
MgCl₂ Carbon Drum

II. MONITORING APPROACH

| Toluene Scrubber 10530 Exhaust Air Temperature | |
|---|---|
| A. Indicator | Condenser coolant supply temperature. |
| B. Indicator Range | An excursion is defined as operation of EU515-01 without Toluene Scrubber 10530 exhaust air temperature being less than or equal to -5 °C. Excursions trigger an inspection and corrective action as necessary. |
| C. QIP Threshold | None selected |
| D. Control Bypass | None present |

| HX-10453 Coolant Supply Temperature | |
|--|--|
| E. Indicator | Condenser coolant supply temperature. |
| F. Indicator Range | An excursion is defined as operation of EU515-01 without Condenser HX-10453 coolant supply temperature being less than or equal to -5 °C. Excursions trigger an inspection and corrective action as necessary. |
| G. QIP Threshold | None selected |
| H. Control Bypass | None present |

| HX-10541 Coolant Supply Temperature | |
|--|---|
| I. Indicator | Condenser coolant supply temperature. |
| J. Indicator Range | An excursion is defined as operation of EU515-01 without Condenser HX-10541 coolant supply temperature being less than or equal to -5 C. Excursions trigger an inspection and corrective action as necessary. |
| K. QIP Threshold | None selected |
| L. Control Bypass | None present |

| HX-10657 Liquid Flow Rate | |
|----------------------------------|---|
| M. Indicator | Condenser liquid flow rate is continuously monitored when not venting to FGTHROX. |
| N. Indicator Range | An excursion is defined as operation of EU515-01 without Condenser HX-10657 liquid flow rate being greater than or equal to 100 gallons per minute while not venting to FGTHROX. Excursions trigger an inspection and corrective action as necessary. |
| O. QIP Threshold | None selected |
| P. Control Bypass | None present |

| Carbon Drum Weight Gain | |
|--------------------------------|---|
| Q. Indicator | Carbon drum weight gain is monitored for each bank of carbon drums. |
| R. Indicator Range | An excursion is defined as operation of EU515-01 with any carbon drum bank having a weight gain of more than 80 kilograms. Excursions trigger an inspection and corrective action as necessary. |
| S. QIP Threshold | None selected |
| T. Control Bypass | None present |

III. PERFORMANCE CRITERIA

| Toluene Scrubber 10530 Exhaust Air Temperature | |
|---|---|
| A. Data Representativeness | Toluene scrubber exhaust air temperature is continuously tracked during emission unit operation. |
| B. Verification of Operational Status | NA |
| C. QA/QC Practices and Criteria | The toluene scrubber is on a regular PM schedule. |
| D. Monitoring Frequency | Toluene scrubber exhaust air temperature is continuously tracked during emission unit operation. |
| E. Data Collection Procedure | Toluene scrubber exhaust air temperature is recorded at least once every 15-minutes during emission unit operation. |
| F. Averaging Period | 15-minute |

| HX-10453 Coolant Supply Temperature | |
|--|---|
| G. Data Representativeness | Condenser coolant supply temperature is continuously tracked during emission unit operation. |
| H. Verification of Operational Status | NA |
| I. QA/QC Practices and Criteria | The condenser is on a regular PM schedule. |
| J. Monitoring Frequency | Condenser coolant supply temperature is continuously tracked during emission unit operation. |
| K. Data Collection Procedure | Condenser coolant supply temperature is recorded at least once every 15-minutes during emission unit operation. |
| L. Averaging Period | 15-minute |

| HX-10541 Coolant Supply Temperature | |
|--|--|
|--|--|

| | | |
|-----------|---|---|
| M. | Data Representativeness | Condenser coolant supply temperature is continuously tracked during emission unit operation. |
| N. | Verification of Operational Status | NA |
| O. | QA/QC Practices and Criteria | The condenser is on a regular PM schedule. |
| P. | Monitoring Frequency | Condenser coolant supply temperature is continuously tracked during emission unit operation. |
| Q. | Data Collection Procedure | Condenser coolant supply temperature is recorded at least once every 15-minutes during emission unit operation. |
| R. | Averaging Period | 15-minute |

| | | |
|-----------|---|---|
| | | HX-10657 Liquid Flow Rate |
| S. | Data Representativeness | Condenser liquid flow rate is continuously tracked during emission unit operation when not venting to FGTHROX. |
| T. | Verification of Operational Status | NA |
| U. | QA/QC Practices and Criteria | The condenser is on a regular PM schedule. |
| V. | Monitoring Frequency | Condenser coolant supply temperature is continuously tracked during emission unit operation when not venting to FGTHROX. |
| W. | Data Collection Procedure | Condenser coolant supply temperature is recorded at least once every 15-minutes during emission unit operation when not venting to FGTHROX. |
| X. | Averaging Period | 15-minute |

| | | |
|------------|---|--|
| | | Carbon Drum Weight Gain |
| Y. | Data Representativeness | Carbon drum weight gain is continuously tracked during emission unit operation. |
| Z. | Verification of Operational Status | NA |
| AA. | QA/QC Practices and Criteria | The carbon drums are on a regular PM schedule. |
| BB. | Monitoring Frequency | Carbon drum weight gain is continuously tracked during emission unit operation. |
| CC. | Data Collection Procedure | Carbon drum weight gain is recorded at least once every 15-minutes during emission unit operation. |
| DD. | Averaging Period | 15-minute |

IV. JUSTIFICATION

A. Rationale for Selection of Performance Indicators

Monitoring the toluene scrubber exhaust air temperature ensures proper operation and control efficiency is being achieved by the toluene scrubber. This shows that the vent stream was in contact long enough with the scrubber liquid to remove the necessary quantity of emissions. An increase in the temperature of the scrubber exhaust can indicate that the scrubber is not achieving the proper level of emissions control and that corrective actions should be implemented.

Monitoring condenser coolant supply temperature ensures proper operation and control efficiency is being achieved by the condenser. An increase in coolant supply temperature can indicate that the condenser will not achieve the desired level of control and that corrective actions should be implemented.

Monitoring condenser liquid flow rate ensures proper operation and control efficiency is being achieved by the condenser. A decrease in condenser liquid flow rate can indicate that the condenser will not achieve the desired level of control and that corrective actions should be implemented.

Monitoring carbon drum weight gain is a method of monitoring capacity of the carbon drums to clean emissions from the exhaust gas stream. Once the carbon drum weight gain exceeds the monitoring threshold, the carbon drums are getting close to breakthrough and need to be replaced to ensure the proper control of emissions is achieved.

B. Rationale for Selection of Indicator Ranges

The indicator range for the toluene scrubber exhaust air temperature is set based on the maximum temperature that can be measured for the exhaust air temperature while still achieving the necessary control efficiency. No QIP threshold has been selected for this indicator.

The indicator range for the condenser coolant supply temperature is set based on the maximum temperature that can be measured for the coolant supply while still achieving the necessary control efficiency. No QIP threshold has been selected for this indicator.

The indicator range for the condenser liquid flow rate is set based on the minimum flowrate necessary for the liquid flow rate while still achieving the necessary control efficiency. No QIP threshold has been selected for this indicator.

The indicator range for the carbon drum weight gain is set based on the capacity of the carbon drums to clean the exhaust stream before breakthrough occurs. No QIP threshold has been selected for this indicator.