



PERMIT
Under the Environmental Conservation Law (ECL)

IDENTIFICATION INFORMATION

Permit Type: Air State Facility
Permit ID: 5-4154-00023/00056
Effective Date: 10/27/2014 Expiration Date: 10/26/2024

Permit Issued To: EVONIK CORPORATION
7 SCHOOLHOUSE LN
PO BOX 188
WATERFORD, NY 12188

Facility: EVONIK CORPORATION
7 SCHOOLHOUSE LN
WATERFORD, NY 12188

Contact: KEVIN F JORDAN
EVONIK CORPORATION
7 SCHOOLHOUSE LANE
WATERFORD, NY 12188
(518) 833-1411

Description:

The Evonik Corporation Waterford facility is located on School House Lane in Saratoga County, Waterford, New York. The facility includes an office building, a warehouse, a tank farm, a production building, an absorption building, and a filtration building. The facility manufactures fumed amorphous silica (SiO₂). Volatile silanes undergo a series of reactions including mixing, burning, evaporation, and further reactions to form SiO₂. The SiO₂ product is then sent to the warehouse for packaging, storage and distribution. The off gas generated during the manufacture of SiO₂ is sent through scrubber systems prior to being emitted to the atmosphere.

Pursuant to 6 NYCRR 616.7 and 40 CFR 2.203, Evonik Corporation is asserting a claim of confidential business information (CBI) over all information related to the process.

Activities at the Waterford facility have been grouped into ten processes (P11, P13, P14, P15, P16, P17, P18, P19 P20 and P21) and four emission units (0-00001, 0-00002, 0-00005 and 0-00006). The emission units and their associated processes are described in more detail in the following paragraphs.

Emission Unit 0-00001, Process Source P13:



Emission unit 0-00001 includes emissions associated with warehouse activities (Process Source P13; this Process Source is related to warehouse Process Sources P19 and P20). Warehouse activities include storage, densifying, and weighing of SiO₂. Warehouse emission sources include four identical SiO₂ product capture units (S9501, S9502, S9503 and S9540); a storage silo (S1301); two identical densifying units (S1303 and S1313); two identical packaging units (S1330 and S1334); a processing tank (S1350); and a vacuum system (S1399). The product capture units are inherent process devices that contain fabric filters and are used to recover SiO₂ (product) from the exhaust gas. The product capture units S9501, S9502, S9503 and S9540 vent to emission point (EP) 01301. The warehouse is also equipped with a vacuum filter system that returns captured SiO₂ (product) from fugitive emissions within the warehouse back to one of the product capture units (S9540). Applicable regulatory requirements for this emission unit include 6 NYCRR 212.(4-6).

Emission Unit 0-00002, Process Source P20:

Emission unit 0-00002 includes emissions associated with warehouse activities (Process Source P20; this Process Source is related to warehouse Process Sources P13 and P19). Warehouse activities include storage, densifying, and weighing of SiO₂. Warehouse emission sources include three identical SiO₂ product capture units (S9504, S9505 and S9506); a storage silo (S1311); a densifying unit (S1323); packaging equipment (S1320); and a processing tank (S1351). The product capture units are inherent process devices that contain fabric filters and are used to recover SiO₂ (product) from the exhaust gas. Product capture units S9504, S9505 and S9506 vent to EP 1304. Applicable regulatory requirements for this emission unit include 6 NYCRR 212.(4-6).

Emission Unit 0-00005, Process Source P11, P14, P17 & P21:

Emission Unit 0-00005 includes emissions associated with absorption activities (Process Source P14). Off gas from the production process (Process Source P17; this Process Source is related to production Process Sources P11, P16 and P18) is exhausted to the absorption building prior to being emitted to the atmosphere. Emission sources in the production building include a mixer (S1104), cooling systems (S1110 and S1234), separation equipment (S1202, S1203, S1204 and S1207) and three reactors (S1108, S1212 and S1222). Emission sources in the absorption building include an absorption system (S1411 and S1414), a cooling system (S1401) and a scrubber system (S1422 and S1432) which vent to EP 01401. Applicable regulatory requirements for this emission unit include 6 NYCRR 212.(4-6).



Emission Unit 0-00006, Process Source P15, P18 and P19:

Emission Unit 0-00006 includes insignificant sources of fugitive air emissions created during the manufacture of the fumed silica. The warehouse building is equipped with two building vents (EP 1303A and 1303B). Fugitive emissions (S9913) associated with warehouse activities (Process Source P19; this Process Source is related to warehouse Process Sources P13 and P20) such as storage, densifying, bagging and weighing of the fumed amorphous silica product are vented to the atmosphere through these vents.

The production building is equipped with two building vents (EP 1102A and 1102B). Fugitive emissions (S9911) associated with production activities (Process Source P18; this Process Source is related to production Process Sources P11, P16 and P17) are vented to the atmosphere through these vents.

The filtration building is equipped with three building vents (EP1501A, 1501B and 1501C). Emission sources in the filtration building (Process Source P15) include process equipment (S1581 and S1582). Emissions from these sources and fugitive emissions (S9915) associated with filtration activities are vented to the atmosphere through the building vents.

Facility-wide applicable federal requirements include the following: 6 NYCRR 200, 201, 202-1, 211.2, 211.3, 257-1.4 and 40 CFR 82 A-G. In addition, 6 NYCRR 201-3 is applicable to all trivial and exempt emission sources at the Waterford facility.

Facility Emissions:

The facility has elected to become a synthetic minor source of air emissions by capping its emissions below major source thresholds. Criteria pollutants include: PM-10, Particulate Matter, VOCs, CO, NO_x, SO₂, HCl and Cl₂. State-only regulated pollutants include Methyltrichlorosilane, Trichlorosilane, Silicon Tetrachloride, Manganese, Nickel, Chromium and Cobalt.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified and any Special Conditions included as part of this permit.

Permit Administrator: KEVIN R BLISS
 NYSDEC - WARRENSBURG SUBOFFICE
 232 GOLF COURSE RD

DEC Permit Conditions
Renewal 1/FINAL



WARRENSBURG, NY 12885-1172

Authorized Signature: _____ Date: ___ / ___ / ____



Notification of Other State Permittee Obligations

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the compliance permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in any compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.



LIST OF CONDITIONS

DEC GENERAL CONDITIONS

General Provisions

- Facility Inspection by the Department
- Relationship of this Permit to Other Department Orders and Determinations
- Applications for permit renewals, modifications and transfers
- Permit modifications, suspensions or revocations by the Department

Facility Level

- Submission of application for permit modification or renewal-REGION 5 SUBOFFICE - WARRENSBURG



DEC GENERAL CONDITIONS
****** General Provisions ******
GENERAL CONDITIONS - Apply to ALL Authorized Permits.

Condition 1: Facility Inspection by the Department

Applicable State Requirement: ECL 19-0305

Item 1.1:

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

Item 1.2:

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

Item 1.3:

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

Condition 2: Relationship of this Permit to Other Department Orders and Determinations

Applicable State Requirement: ECL 3-0301 (2) (m)

Item 2.1:

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

Condition 3: Applications for permit renewals, modifications and transfers

Applicable State Requirement: 6 NYCRR 621.11

Item 3.1:

The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

Item 3.2:

The permittee must submit a renewal application at least 180 days before expiration of permits for Title V Facility Permits, or at least 30 days before expiration of permits for State Facility Permits.

Item 3.3:

Permits are transferrable with the approval of the department unless specifically prohibited by the statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.



Condition 4: Permit modifications, suspensions or revocations by the Department
Applicable State Requirement: 6 NYCRR 621.13

Item 4.1:

The Department reserves the right to exercise all available authority to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

****** Facility Level ******

Condition 5: Submission of application for permit modification or renewal-REGION 5
SUBOFFICE - WARRENSBURG
Applicable State Requirement: 6 NYCRR 621.6 (a)

Item 5.1:

Submission of applications for permit modification or renewal are to be submitted to:

NYSDEC Regional Permit Administrator
Region 5 Sub-office
Division of Environmental Permits
232 Golf Course Road
Warrensburg, NY 12885-1172
(518) 623-1281

New York State Department of Environmental Conservation

Permit ID: 5-4154-00023/00056

Facility DEC ID: 5415400023



Permit Under the Environmental Conservation Law (ECL)

**ARTICLE 19: AIR POLLUTION CONTROL - AIR STATE FACILITY
PERMIT**

IDENTIFICATION INFORMATION

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7 SCHOOLHOUSE LN
PO BOX 188
WATERFORD, NY 12188

Facility: EVONIK CORPORATION
7 SCHOOLHOUSE LN
WATERFORD, NY 12188

Authorized Activity By Standard Industrial Classification Code:
2819 - INDUSTRIAL INORGANIC CHEMICALS

Permit Effective Date: 10/27/2014

Permit Expiration Date: 10/26/2024



LIST OF CONDITIONS

FEDERALLY ENFORCEABLE CONDITIONS

Facility Level

- 1 6 NYCRR 211.1: Air pollution prohibited
- 2 6 NYCRR 212.6 (a): Compliance Demonstration

Emission Unit Level

EU=0-00001,EP=01301

- 3 6 NYCRR 212.4 (c): Compliance Demonstration

EU=0-00002,EP=01304

- 4 6 NYCRR 212.4 (c): Compliance Demonstration

EU=0-00005

- 5 6 NYCRR Part 212: Compliance Demonstration

EU=0-00005,EP=01401

- 6 6 NYCRR Part 212: Compliance Demonstration

EU=0-00006

- 7 6 NYCRR 212.4 (c): Compliance Demonstration

STATE ONLY ENFORCEABLE CONDITIONS

Facility Level

- 8 ECL 19-0301: Contaminant List
- 9 6 NYCRR 201-1.4: Malfunctions and start-up/shutdown activities
- 10 6 NYCRR Subpart 201-5: Emission Unit Definition
- 11 6 NYCRR 201-5.2 (c): Renewal deadlines for state facility permits
- 12 6 NYCRR 201-5.3 (c): Compliance Demonstration
- 13 6 NYCRR 211.2: Visible Emissions Limited

Emission Unit Level

- 14 6 NYCRR Subpart 201-5: Emission Point Definition By Emission Unit
- 15 6 NYCRR Subpart 201-5: Process Definition By Emission Unit



FEDERALLY ENFORCEABLE CONDITIONS
****** Facility Level ******

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

This section contains terms and conditions which are federally enforceable. Permittees may also have other obligations under regulations of general applicability

Item A: Sealing - 6 NYCRR 200.5

The Commissioner may seal an air contamination source to prevent its operation if compliance with 6 NYCRR Chapter III is not met within the time provided by an order of the Commissioner issued in the case of the violation.

Sealing means labeling or tagging a source to notify any person that operation of the source is prohibited, and also includes physical means of preventing the operation of an air contamination source without resulting in destruction of any equipment associated with such source, and includes, but is not limited to, bolting, chaining or wiring shut control panels, apertures or conduits associated with such source.

No person shall operate any air contamination source sealed by the Commissioner in accordance with this section unless a modification has been made which enables such source to comply with all requirements applicable to such modification.

Unless authorized by the Commissioner, no person shall remove or alter any seal affixed to any contamination source in accordance with this section.

Item B: Acceptable Ambient Air Quality - 6 NYCRR 200.6

Notwithstanding the provisions of 6 NYCRR Chapter III, Subchapter A, no person shall allow or permit any air contamination source to emit air contaminants in quantities which alone or in combination with emissions from other air contamination sources would contravene any applicable ambient air quality standard and/or cause air pollution. In such cases where contravention occurs or may occur, the Commissioner shall specify the degree and/or method of emission control required.

Item C: Maintenance of Equipment - 6 NYCRR 200.7

Any person who owns or operates an air contamination source which is equipped with an emission control device shall operate such device and keep it in a satisfactory state of maintenance and repair in accordance with ordinary and necessary practices, standards and procedures, inclusive of manufacturer's specifications,



required to operate such device effectively.

Item D: Unpermitted Emission Sources - 6 NYCRR 201-1.2

If an existing emission source was subject to the permitting requirements of 6 NYCRR Part 201 at the time of construction or modification, and the owner and/or operator failed to apply for a permit for such emission source then the following provisions apply:

- (a) The owner and/or operator must apply for a permit for such emission source or register the facility in accordance with the provisions of Part 201.
- (b) The emission source or facility is subject to all regulations that were applicable to it at the time of construction or modification and any subsequent requirements applicable to existing sources or facilities.

Item E: Emergency Defense - 6 NYCRR 201-1.5

An emergency constitutes an affirmative defense to an action brought for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An emergency occurred and that the facility owner and/or operator can identify the cause(s) of the emergency;
- (2) The equipment at the permitted facility causing the emergency was at the time being properly operated;
- (3) During the period of the emergency the facility owner and/or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- (4) The facility owner and/or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner and/or operator seeking to establish the occurrence of an emergency has the burden of proof.



(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

Item F: Recycling and Salvage - 6 NYCRR 201-1.7

Where practical, any person who owns or operates an air contamination source shall recycle or salvage air contaminants collected in an air cleaning device according to the requirements of 6 NYCRR.

Item G: Prohibition of Reintroduction of Collected Contaminants to the Air - 6 NYCRR 201-1.8

No person shall unnecessarily remove, handle, or cause to be handled, collected air contaminants from an air cleaning device for recycling, salvage or disposal in a manner that would reintroduce them to the outdoor atmosphere.

Item H: Proof of Eligibility for Sources Defined as Exempt Activities - 6 NYCRR 201-3.2 (a)

The owner and/or operator of an emission source or unit that is eligible to be exempt, may be required to certify that it operates within the specific criteria described in 6 NYCRR Subpart 201-3. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to 6 NYCRR Subpart 201-3, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

Item I: Proof of Eligibility for Sources Defined as Trivial Activities - 6 NYCRR 201-3.3 (a)

The owner and/or operator of an emission source or unit that is listed as being trivial in 6 NYCRR Part 201 may be required to certify that it operates within the specific criteria described in 6 NYCRR Subpart 201-3. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to 6 NYCRR Subpart 201-3, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

Item J: Required Emission Tests - 6 NYCRR 202-1.1



An acceptable report of measured emissions shall be submitted, as may be required by the Commissioner, to ascertain compliance or noncompliance with any air pollution code, rule, or regulation. Failure to submit a report acceptable to the Commissioner within the time stated shall be sufficient reason for the Commissioner to suspend or deny an operating permit. Notification and acceptable procedures are specified in 6 NYCRR Subpart 202-1.

Item K: Open Fires Prohibitions - 6 NYCRR 215.2
Except as allowed by section 215.3 of 6 NYCRR Part 215, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

Item L: Permit Exclusion - ECL 19-0305
The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

Item M: Federally Enforceable Requirements - 40 CFR 70.6 (b)
All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

FEDERAL APPLICABLE REQUIREMENTS
The following conditions are federally enforceable.

Condition 1: Air pollution prohibited



Effective between the dates of 10/27/2014 and 10/26/2024

Applicable Federal Requirement:6 NYCRR 211.1

Item 1.1:

No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property. Notwithstanding the existence of specific air quality standards or emission limits, this prohibition applies, but is not limited to, any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emission, either alone or in combination with others.

Condition 2: Compliance Demonstration
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable Federal Requirement:6 NYCRR 212.6 (a)

Item 2.1:

The Compliance Demonstration activity will be performed for the Facility.

Item 2.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

No person shall cause or allow emissions having an average opacity during any six consecutive minutes of 20 percent or greater from any process emission source, except only the emission of uncombined water. The Department reserves the right to perform or require the performance of a Method 9 opacity evaluation at any time during facility operation.

The permittee will conduct observations of visible emissions from the emission unit, process, etc. to which this condition applies at the monitoring frequency stated below while the process is in operation. The permittee will investigate, in a timely manner, any instance where there is cause to believe that visible emissions have the potential to exceed the opacity standard.

The permittee shall investigate the cause, make any necessary corrections, and verify that the excess visible emissions problem has been corrected. If visible emissions with the potential to exceed the standard continue, the permittee will conduct a Method 9 assessment within the next operating day of the sources associated with the potential noncompliance to determine the degree of opacity and will notify the NYSDEC if the method 9 test indicates that the opacity standard is not met.



Records of visible emissions observations (or any follow-up method 9 tests), investigations and corrective actions will be kept on-site. Should the Department determine that permittee's record keeping format is inadequate to demonstrate compliance with this condition, it shall provide written notice to the permittee stating the inadequacies, and permittee shall have 90 days to revise its prospective record keeping format in a manner acceptable to the Department.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

****** Emission Unit Level ******

Condition 3: Compliance Demonstration
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable Federal Requirement:6 NYCRR 212.4 (c)

Item 3.1:

The Compliance Demonstration activity will be performed for:

Emission Unit: 0-00001 Emission Point: 01301

Regulated Contaminant(s):
CAS No: 0NY075-00-0 PARTICULATES

Item 3.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Compliance with the 0.05 gpdsf requirement from emission point 01301 shall be demonstrated by maintaining a minimum pressure drop across the bagfilters S9501, S9502, S9503 and S9540 when not in cleaning mode.

Manufacturer Name/Model Number: Rosemount -
1151DP3E22L4/3051CD1AD2A1AH2B715L4M5

Parameter Monitored: PRESSURE CHANGE

Lower Permit Limit: 0.5 millibar

Monitoring Frequency: PER SHIFT

Averaging Method: MINIMUM - NOT TO FALL BELOW STATED
VALUE AT ANY TIME

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

Condition 4: Compliance Demonstration



Effective between the dates of 10/27/2014 and 10/26/2024

Applicable Federal Requirement:6 NYCRR 212.4 (c)

Item 4.1:

The Compliance Demonstration activity will be performed for:

Emission Unit: 0-00002 Emission Point: 01304

Regulated Contaminant(s):
CAS No: 0NY075-00-0 PARTICULATES

Item 4.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Compliance with the 0.05 gpdscf requirement from emission point 01304 shall be demonstrated by maintaining a minimum pressure drop across the bagfilters S9504, S9505 & S9506 when not in cleaning mode.

Manufacturer Name/Model Number: Rousemount -
1151DP3E22L4/3051CD1AD2A1AH2B715L4M5

Parameter Monitored: PRESSURE CHANGE

Lower Permit Limit: 0.5 millibar

Monitoring Frequency: PER SHIFT

Averaging Method: MINIMUM - NOT TO FALL BELOW STATED
VALUE AT ANY TIME

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

Condition 5: Compliance Demonstration
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable Federal Requirement:6 NYCRR Part 212

Item 5.1:

The Compliance Demonstration activity will be performed for:

Emission Unit: 0-00005

Regulated Contaminant(s):
CAS No: 000075-79-6 METHYLTRICHLOROSILANE

Item 5.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

For scrubber (S9530), Degussa Corporation proposes to maintain methyltrichlorosilane (MTCS) emissions below

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emission limits by maintaining and operating the scrubber in accordance with good engineering practice and/or manufacturer's recommendations. Degussa Corporation will operate the scrubber process in accordance with the design parameters and will maintain records of major maintenance activities performed on the scrubber. Degussa will record hours of operation for the scrubber and will calculate actual annual emissions from the scrubber using the emission factors in the calculations section of the supporting documentation.

Monitoring Frequency: ANNUALLY

Averaging Method: CALENDAR YEAR AVERAGE

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

Condition 6: Compliance Demonstration
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable Federal Requirement: 6 NYCRR Part 212

Item 6.1:

The Compliance Demonstration activity will be performed for:

Emission Unit: 0-00005

Emission Point: 01401

Regulated Contaminant(s):

CAS No: 007647-01-0

HYDROGEN CHLORIDE

CAS No: 007782-50-5

CHLORINE

Item 6.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

For scrubbers (S1422 and S1432) Degussa Corporation proposes to maintain chlorine (Cl₂) and hydrogen chloride (HCl) emissions below emission limits by maintaining and operating the scrubbers in accordance with good engineering practice and/or manufacturer's recommendations. Degussa Corporation will operate the scrubber process in accordance with the design parameters and will maintain records of major maintenance activities performed on the scrubbers. Degussa will record hours of operation for scrubber S1432 and will calculate actual annual Cl₂ and HCl emissions from scrubber S1432 using the emission factors in the calculations section of the supporting documentation. A minimum water flow rate to the scrubbers shall be maintained to further assure compliance.

Monitoring Frequency: PER SHIFT

Averaging Method: MINIMUM - NOT TO FALL BELOW STATED



VALUE AT ANY TIME
Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

Condition 7: Compliance Demonstration
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable Federal Requirement: 6 NYCRR 212.4 (c)

Item 7.1:

The Compliance Demonstration activity will be performed for:

Emission Unit: 0-00006

Item 7.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Emissions of solid particulates are limited to less than 0.050 grains of particulates per cubic foot of exhaust gas, expressed at standard conditions on a dry gas basis. The Department reserves the right to perform or require the performance of a Method 5 emissions evaluation at any time.

The permittee will conduct compliance verifications at the monitoring frequency stated below. These verifications include review of pertinent information relating to particulate emissions of the source, including but not limited to production rate, process material, air flow rate, control equipment parameters, visible emissions, etc. The permittee will confirm that during source operation all pertinent parameters (whether used to directly calculate particulate emission rate, or as surrogates) are within ranges that ensure compliance with the particulate emission rate.

Additionally, the permittee will investigate, in a timely manner, any instance where there is cause to believe that particulate emissions above 0.050 gr/dscf are occurring or have occurred. These instances include but are not limited to process upsets, control device malfunctions or problems, abnormal visible emissions, complaints, etc. The permittee shall determine the cause of any exceedance, make the necessary correction, and verify that the excess emissions problem has been corrected.

Records of these verifications, investigations and corrective actions will be kept on-site. Should the Department determine that permittee's record keeping format is inadequate to demonstrate compliance

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with this condition, it shall provide written notice to the permittee stating the inadequacies, and permittee shall have 90 days to revise its prospective record keeping format in a manner acceptable to the Department.

Parameter Monitored: PARTICULATES

Upper Permit Limit: 0.050 grains per dscf

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION



STATE ONLY ENFORCEABLE CONDITIONS
****** Facility Level ******

NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

This section contains terms and conditions which are not federally enforceable. Permittees may also have other obligations under regulations of general applicability

Item A: Public Access to Recordkeeping for Facilities With State Facility Permits - 6 NYCRR 201-1.10 (a)

Where facility owners and/or operators keep records pursuant to compliance with the requirements of 6 NYCRR Subpart 201-5.4, and/or the emission capping requirements of 6 NYCRR Subpart 201-7, the Department will make such records available to the public upon request in accordance with 6 NYCRR Part 616 - Public Access to Records. Facility owners and/or operators must submit the records required to comply with the request within sixty working days of written notification by the Department.

Item B: General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

STATE ONLY APPLICABLE REQUIREMENTS

The following conditions are state only enforceable.

Condition 8: Contaminant List
Effective between the dates of 10/27/2014 and 10/26/2024



under Subdivisions (b) and (c) of this Section, an estimate of the maximum ground level concentration of each air contaminant emitted and the effect of such emissions.

(e) A violation of any applicable emission standard resulting from start-up, shutdown, or malfunction conditions at a permitted or registered facility may not be subject to an enforcement action by the department and/or penalty if the department determines, in its sole discretion, that such a violation was unavoidable. The actions and recordkeeping and reporting requirements listed above must be adhered to in such circumstances.

Condition 10: Emission Unit Definition
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable State Requirement: 6 NYCRR Subpart 201-5

Item 10.1:

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 0-00001

Emission Unit Description:

Emission unit 0-00001 includes emissions associated with warehouse activities. Warehouse activities include storage, densifying, bagging, and weighing of SiO₂. Warehouse emission sources, which are all located in the warehouse building, include four SiO₂ product capture units (S9501, S9502, S9503, S9540); a storage silo (S1301); two densifying units (S1303 and S1313); two packaging units (S1330 and S1334); a processing tank (S1350); and a vacuum system (S1399). The product capture units are inherent process devices that contain fabric filters and are used to recover SiO₂ (product) from the exhaust gas. The product capture units S9501, S9502, S9503, and S9540 vent to emission point (EP) 01301. The warehouse is also equipped with a vacuum filter system that returns captured SiO₂ (product) from fugitive emissions within the warehouse back to one of the product capture units (S9540).

Building(s): WAREHOUSE

Item 10.2:

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 0-00002

Emission Unit Description:

Emission unit 0-00002 includes emissions associated with warehouse activities. Warehouse activities include storage, densifying, bagging, and weighing of SiO₂. Warehouse emission sources, which are all located in the warehouse building, include three product capture units (S9504, S9505, S9506); a storage silo (S1311); a densifying unit (S1323); packaging equipment (S1320); and a processing tank (S1351). The product capture units are inherent process devices that contain fabric filters and are used to recover SiO₂ (product) from the exhaust gas.



The product capture units S9504, S9505, and S9506 vent to EP 01304.

Building(s): WAREHOUSE

Item 10.3:

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 0-00005

Emission Unit Description:

Off gas from the production process is exhausted to the absorption building prior to being emitted to the atmosphere. Emission sources associated with process P11 include the evaporator (S1103) and the scrubber system (S9529 and S9530). The scrubber vents to EP#01103. The sources S1103 and S9529 will also be able to operate under Process P21 and vent thru scrubbers S1422 and S1432. Emission sources in the production building, associated with process P17, include a mixer (S1104), cooling systems (S1110 and S1234), separation equipment (S1202, S1203, S1204 and S1207), and three reactors (S1108, S1212, and S1222). Emission sources in the absorption building include an absorption system (S1411 and S1414), a cooling system (S1401), and a scrubber system (S1422 and S1432) which vent to EP#01401.

Building(s): ABSORPTION
PRODUCTION

Item 10.4:

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: 0-00006

Emission Unit Description:

The warehouse building is equipped with two building vents (EP 1303A and 1303B). Fugitive emissions (S9913) associated with warehouse activities (Process P19) such as storage, densifying, bagging, and weighing of the fumed amorphous silica product are vented to the atmosphere through these vents. The production building is equipped with two building vents (EP 1102A and 1102B). Fugitive emissions (S9911) associated with production activities (Process P18) are vented to the atmosphere through these vents. The filtration building is equipped with three building vents: EP 1501A, 1501B, and 1501C. Emission sources in the filtration building include process equipment (S1581 and S1582). Emissions from these sources and fugitive emissions (S9915) associated with filtration activities (Process 15) are vented to the atmosphere through the building vents.

Building(s): FILTRATION
PRODUCTION
WAREHOUSE



Condition 11: Renewal deadlines for state facility permits
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable State Requirement:6 NYCRR 201-5.2 (c)

Item 11.1:

The owner or operator of a facility having an issued state facility permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for permit renewal purposes.

Condition 12: Compliance Demonstration
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable State Requirement:6 NYCRR 201-5.3 (c)

Item 12.1:

The Compliance Demonstration activity will be performed for the Facility.

Item 12.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Any reports or submissions required by this permit shall be submitted to the Regional Air Pollution Control Engineer (RAPCE) at the following address:

Division of Air Resources
NYS Dept. of Environmental Conservation
Region 5
232 Golf Course Rd.
Warrensburg, NY 12885

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 13: Visible Emissions Limited
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable State Requirement:6 NYCRR 211.2

Item 13.1:

Except as permitted by a specific part of this Subchapter and for open fires for which a restricted burning permit has been issued, no person shall cause or allow any air contamination source to emit any material having an opacity equal to or greater than 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent opacity.

****** Emission Unit Level ******



Condition 14: Emission Point Definition By Emission Unit
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable State Requirement:6 NYCRR Subpart 201-5

Item 14.1:

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 0-00001

Emission Point: 01301

Height (ft.): 70

Diameter (in.): 24

NYTMN (km.): 4741.813 NYTME (km.): 608.655

Item 14.2:

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 0-00002

Emission Point: 01304

Height (ft.): 70

Diameter (in.): 24

NYTMN (km.): 4741.814 NYTME (km.): 608.688

Item 14.3:

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 0-00005

Emission Point: 01401

Height (ft.): 95

Diameter (in.): 16

NYTMN (km.): 4741.813 NYTME (km.): 608.678

Item 14.4:

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: 0-00006

Emission Point: 1102A

Height (ft.): 75

Diameter (in.): 24

NYTMN (km.): 4741.808 NYTME (km.): 608.655

Emission Point: 1102B

Height (ft.): 75

Diameter (in.): 24

NYTMN (km.): 4741.808 NYTME (km.): 608.662

Emission Point: 1303A

Height (ft.): 30

Diameter (in.): 24

NYTMN (km.): 4741.814 NYTME (km.): 608.662

Emission Point: 1303B

Height (ft.): 30

Diameter (in.): 24

NYTMN (km.): 4741.808 NYTME (km.): 608.667



Emission Point: 1501A
Height (ft.): 28 Diameter (in.): 20
NYTMN (km.): 4741.808 NYTME (km.): 608.673

Emission Point: 1501B
Height (ft.): 28 Diameter (in.): 20
NYTMN (km.): 4741.801 NYTME (km.): 608.661

Emission Point: 1501C
Height (ft.): 28 Diameter (in.): 20
NYTMN (km.): 4741.802 NYTME (km.): 608.668

Condition 15: Process Definition By Emission Unit
Effective between the dates of 10/27/2014 and 10/26/2024

Applicable State Requirement:6 NYCRR Subpart 201-5

Item 15.1:

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 0-00001

Process: P13

Process Description:

Warehouse emission sources, which are all located in the warehouse building, include four product capture units (S9501, S9502, S9503 and S9540); storage silo S1301; densifying equipment S1303 & S1313; packaging equipment S1330 & S1334; weighing tank S1350; and a vacuum system S1399.

Emission Source/Control: S1301 - Process

Emission Source/Control: S1303 - Process

Emission Source/Control: S1313 - Process

Emission Source/Control: S1330 - Process

Emission Source/Control: S1334 - Process

Emission Source/Control: S1350 - Process

Emission Source/Control: S1399 - Process

Emission Source/Control: S9501 - Process

Emission Source/Control: S9502 - Process

Emission Source/Control: S9503 - Process

Emission Source/Control: S9540 - Process



Item 15.2:

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 0-00002

Process: P20

Process Description:

Warehouse emission sources, which are all located in the warehouse building, include three product capture units S9504, S9505 and S9506; storage silo S1311; densifying equipment S1323; packaging equipment S1320; and weighing tank S1351.

Emission Source/Control: S1311 - Process

Emission Source/Control: S1320 - Process

Emission Source/Control: S1323 - Process

Emission Source/Control: S1351 - Process

Emission Source/Control: S9504 - Process

Emission Source/Control: S9505 - Process

Emission Source/Control: S9506 - Process

Item 15.3:

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 0-00005

Process: P14

Process Description:

Absorption activities in the absorption building include an absorption system (S1411 and S1414), a cooling system (S1401), and a scrubber system (S1422 and S1432).

Emission Source/Control: S1422 - Control
Control Type: WET SCRUBBER

Emission Source/Control: S1432 - Control
Control Type: WET SCRUBBER

Emission Source/Control: S1401 - Process

Emission Source/Control: S1411 - Process

Emission Source/Control: S1414 - Process

Item 15.4:

This permit authorizes the following regulated processes for the cited Emission Unit:



Emission Unit: 0-00005

Process: P17

Process Description:

Production emission sources associated with a mixer (S1104), two cooling systems (S1110 and S1234), four separation systems (S1202, S1203, S1204 and S1207) and three reactors (S1108, S1212, and S1222).

Emission Source/Control: S1104 - Process

Emission Source/Control: S1108 - Process

Emission Source/Control: S1110 - Process

Emission Source/Control: S1202 - Process

Emission Source/Control: S1203 - Process

Emission Source/Control: S1204 - Process

Emission Source/Control: S1207 - Process

Emission Source/Control: S1212 - Process

Emission Source/Control: S1222 - Process

Emission Source/Control: S1234 - Process

Item 15.5:

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 0-00005

Process: P21

Process Description:

Production building emission sources include: evaporator S1103 and scrubber system S9529 which vents thru either S1422 or S1432.

Emission Source/Control: S1422 - Control

Control Type: WET SCRUBBER

Emission Source/Control: S1432 - Control

Control Type: WET SCRUBBER

Emission Source/Control: S1103 - Process

Emission Source/Control: S9529 - Process

Item 15.6:

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 0-00006



Process: P15

Process Description:

Potential filtration emission sources include the process equipment (S1581 and S1582) and filtration fugitive emissions (S9915). Particulate emissions are not expected to be significant from this process because of the physical state of the particulate matter.

Emission Source/Control: S1581 - Process

Emission Source/Control: S1582 - Process

Emission Source/Control: S9915 - Process

Item 15.7:

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 0-00006

Process: P18

Process Description:

Production fugitive emissions (S9911) from sources located in the production building.

Emission Source/Control: S9911 - Process

Item 15.8:

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: 0-00006

Process: P19

Process Description: Warehouse fugitive emissions S9913.

Emission Source/Control: S9913 - Process

