



PERMIT
Under the Environmental Conservation Law (ECL)

IDENTIFICATION INFORMATION

Permit Type: Air State Facility
Permit ID: 9-2940-00175/00001
Effective Date: 03/12/2018 Expiration Date: 03/11/2028

Permit Issued To: VWR INTERNATIONAL, LLC
100 MATSONFORD RD
RADNOR, PA 19087

Contact: BRANDI SHARRATT
VWR INTERNATIONAL LLC
6351 INDUCON DR E
SANBORN, NY 14132-9016
(716) 216-4725

Facility: VWR CHEMICALS, LLC
6357 INDUCON DR E
SANBORN, NY 14132

Contact: BRANDI SHARRATT
VWR INTERNATIONAL LLC
6351 INDUCON DR E
SANBORN, NY 14132-9016
(716) 216-4725

Description:
VWR Chemicals located in Sanborn, New York is a chemical manufacturing facility that produces powder buffer chemicals in batch format using chemical reactors, ion exchange beds, centrifuges and dryers. The primary products manufactured are biological buffers, specialty chemicals, cell culture media and reagents, and antibiotic solutions. VWR acquired the facility from United Biochemicals, LLC in July of 2013. The facility consists of two buildings at 6351 and 6357 Inducon Dr East. Both buildings contain manufacturing warehousing, and office areas. This Air State Facility permit is being issued as a renewal for the pervious permit with expiration date: April 23, 2018.

This permit contains conditions monitoring methanol and hydrochloric acid (HCl) emissions subject to 6NYCRR Part 212-2.3(b) and opacity limitation subject to 6NYCRR Part 212-1.6(a).

Particulate emissions are limited to 0.050 grains/dscf and are controlled to 99.9%+ efficiency by the cyclone/fabric filter product collection system- the exhaust from which then passes into the scrubbing system for further particulate reduction.



Methanol emissions, are required by Table 4 of 6NYCRR Part 212-2.3(b) to be controlled to a minimum of 90%. A performance test was conducted on the methanol scrubber on July 14, 2016. Test results show that the scrubber has an average removal efficiency of 99.98%

Emissions of HCl from the product dryer have an emission rate potential (ERP) of 0.67 pounds per hour and an environmental rating of 'B'. As required by 6NYCRR, Part 212-2.3(b) Table 4; the ambient air concentration of HCl is to remain under the annual guideline concentration (AGC) of 20 ug/m³ and short-term guideline concentrations (SGC) of 2100 ug/m³. An Air Guide 1 evaluation using the emission rate based on the wet scrubber's expected performance demonstrated that the modeled impacts will not exceed the AGC and SGC.

Other facility emissions are generated from several trivial or exempt sources including: Two (2) methanol storage tanks, two (2) mother liquor (methanol+water) storage tanks, and three (3) natural gas combustion installations. These sources are not subject to the requirements in Part 212 as per 6 NYCRR, Part 212-1.4(a).

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: DAVID S DENK
 DIVISION OF ENVIRONMENTAL PERMITS
 270 MICHIGAN AVE
 BUFFALO, NY 14203-2915

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 9 SUBOFFICE-ALLEGANY



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 the expiration of permits for Title V and 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 9
SUBOFFICE-ALLEGANY
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 9 Sub-office
Division of Environmental Permits
182 E. Union Street
Allegany, NY 14706-1328
(716) 372-0645

New York State Department of Environmental Conservation

Permit ID: 9-2940-00175/00001

Facility DEC ID: 9294000175



Permit Under the Environmental Conservation Law (ECL)

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

IDENTIFICATION INFORMATION

Permit Issued To: VWR INTERNATIONAL, LLC
100 MATSONFORD RD
RADNOR, PA 19087

Facility: VWR CHEMICALS, LLC
6357 INDUCON DR E
SANBORN, NY 14132

Authorized Activity By Standard Industrial Classification Code:
2899 - CHEMICAL PREPARATIONS, NEC

Permit Effective Date: 03/12/2018

Permit Expiration Date: 03/11/2028



LIST OF CONDITIONS

FEDERALLY ENFORCEABLE CONDITIONS

Facility Level

- 1 6 NYCRR 201-6.4 (e): Compliance Demonstration
- 2 6 NYCRR 200.7: Maintenance of Equipment
- 3 6 NYCRR 211.1: Air pollution prohibited
- 4 6 NYCRR 212-1.6 (a): Compliance Demonstration
- 5 6 NYCRR 212-2.4 (b): Compliance Demonstration

STATE ONLY ENFORCEABLE CONDITIONS

Facility Level

- 6 ECL 19-0301: Contaminant List
- 7 6 NYCRR 201-1.4: Malfunctions and start-up/shutdown activities
- 8 6 NYCRR Subpart 201-5: Emission Unit Definition
- 9 6 NYCRR 201-5.2 (c): Renewal deadlines for state facility permits
- 10 6 NYCRR 201-5.3 (c): Compliance Demonstration
- 11 6 NYCRR 211.2: Visible Emissions Limited

Emission Unit Level

- 12 6 NYCRR Subpart 201-5: Emission Point Definition By Emission Unit
- 13 6 NYCRR Subpart 201-5: Process Definition By Emission Unit

EU=0-00001,EP=00001,Proc=001

- 14 6 NYCRR 212-2.3 (b): Compliance Demonstration
- 15 6 NYCRR 212-2.3 (b): Compliance Demonstration



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: 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 F: 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 G: 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 H: 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 I: 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 J: 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 K: 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 L: 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: Compliance Demonstration
Effective between the dates of 03/12/2018 and 03/11/2028

Applicable Federal Requirement: 6 NYCRR 201-6.4 (e)

Item 1.1:

The Compliance Demonstration activity will be performed for the Facility.

Item 1.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Requirements for compliance certifications with terms and conditions contained in this facility permit include the following:

- i. Compliance certifications shall contain:
 - the identification of each term or condition of the permit that is the basis of the certification;
 - the compliance status;
 - whether compliance was continuous or intermittent;
 - the method(s) used for determining the compliance status of the facility, currently and over the reporting period consistent with the monitoring and related recordkeeping and reporting requirements of this permit;
 - such other facts as the Department may require to determine the compliance status of the facility as specified in any special permit terms or conditions;
 - and
 - such additional requirements as may be specified elsewhere in this permit related to compliance certification.
- ii. The responsible official must include in the annual certification report all terms and conditions contained in

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this permit which are identified as being subject to certification, including emission limitations, standards, or work practices. That is, the provisions labeled herein as "Compliance Certification" are not the only provisions of this permit for which an annual certification is required.

iii. Compliance certifications shall be submitted annually. Certification reports are due 30 days after the anniversary date of four consecutive calendar quarters. The first report is due 30 days after the calendar quarter that occurs just prior to the permit anniversary date, unless another quarter has been acceptable by the Department.

iv. All annual compliance certifications may be submitted electronically or physically. Electronic reports shall be submitted using the Department's Air Compliance and Emissions Electronic-Reporting system (ACE). If the facility owner or operator elects to send physical copies instead, two copies shall be sent to the Department (one copy to the regional air pollution control engineer (RAPCE) in the regional office and one copy to the Bureau of Quality Assurance (BQA) in the DEC central office) and one copy shall be sent to the Administrator (or his or her representative). The mailing addresses for the above referenced persons are:

Chief – Stationary Source Compliance Section
USEPA Region 2
Air Compliance Branch
290 Broadway
New York, NY 10007-1866

The address for the RAPCE is as follows:

Regional Air Pollution Control Engineer
NYSDEC Region 9 Headquarters
270 Michigan Avenue
Buffalo, NY 14203-2915

The address for the BQA is as follows:

NYSDEC
Bureau of Quality Assurance
625 Broadway
Albany, NY 12233-3258

Monitoring Frequency: ANNUALLY
Reporting Requirements: ANNUALLY (CALENDAR)
Reports due 30 days after the reporting period.
The initial report is due 1/30/2019.



Subsequent reports are due on the same day each year

Condition 2: Maintenance of Equipment
Effective between the dates of 03/12/2018 and 03/11/2028

Applicable Federal Requirement:6 NYCRR 200.7

Item 2.1:

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.

Condition 3: Air pollution prohibited
Effective between the dates of 03/12/2018 and 03/11/2028

Applicable Federal Requirement:6 NYCRR 211.1

Item 3.1:

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 4: Compliance Demonstration
Effective between the dates of 03/12/2018 and 03/11/2028

Applicable Federal Requirement:6 NYCRR 212-1.6 (a)

Item 4.1:

The Compliance Demonstration activity will be performed for the Facility.

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:

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 facility shall maintain its control equipment,

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baghouses and scrubbers, in accordance with manufacturer's recommendations and according to good engineering practice. If any visible emissions are identified, corrective action is required. The Department reserves the right to perform or require the performance of a Method 9 opacity evaluation. The facility shall establish a written preventative maintenance/inspection program and employee training in the proper operation of all equipment.

Parameter Monitored: OPACITY

Upper Permit Limit: 20 percent

Reference Test Method: Method 9

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: 6 MINUTE AVERAGE

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 5: Compliance Demonstration
Effective between the dates of 03/12/2018 and 03/11/2028

Applicable Federal Requirement: 6 NYCRR 212-2.4 (b)

Item 5.1:

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):

CAS No: 0NY075-00-5 PM-10

Item 5.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: INTERMITTENT EMISSION TESTING

Monitoring Description:

The control of particulate emissions released from new and modified process emission sources.

Emissions from any process emission source for which an application was received by the department after July 1, 1973 are restricted as follows:

No facility owner or operator shall cause or allow emissions of particulate that exceed 0.050 grains per cubic foot of exhaust gas, expressed at standard conditions on a dry gas basis, except in instances where determination of permissible emission rate using process weight for a specific source category emitting solid particulate is based upon Table 5 and Table 6 of Subdivisions 212-2.5(a) and (b) of this Part.

As per 212-1.7(a) 'Sampling and monitoring' section, facility owners and/or operators of a process emission source required by the department to demonstrate compliance with this Part may be required to conduct

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capture efficiency and/or stack emissions testing using acceptable and approved procedures pursuant to Part 202 of this Title.

Parameter Monitored: PM-10

Upper Permit Limit: 0.050 grains per dscf

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Averaging Method: AVERAGING METHOD - SEE MONITORING DESCRIPTION

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY



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: Emergency Defense - 6 NYCRR 201-1.5

An emergency, as defined by subpart 201-2, constitutes an affirmative defense to penalties sought in an enforcement action brought by the Department 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 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 and maintained;

(3) During the period of the emergency the facility owner 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 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 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 B: 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 C: 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 6: Contaminant List
Effective between the dates of 03/12/2018 and 03/11/2028**

Applicable State Requirement:ECL 19-0301

Item 6.1:

Emissions of the following contaminants are subject to contaminant specific requirements in this permit(emission limits, control requirements or compliance monitoring conditions).

CAS No: 000067-56-1
Name: METHYL ALCOHOL

CAS No: 007647-01-0
Name: HYDROGEN CHLORIDE

CAS No: 0NY075-00-0
Name: PARTICULATES

CAS No: 0NY075-00-5

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Name: PM-10

Condition 7: Malfunctions and start-up/shutdown activities
Effective between the dates of 03/12/2018 and 03/11/2028

Applicable State Requirement:6 NYCRR 201-1.4

Item 7.1:

(a) The facility owner or operator shall take all necessary and appropriate actions to prevent the emission of air pollutants that result in contravention of any applicable emission standard during periods of start-up, shutdown, or malfunction.

(b) The facility owner or operator shall compile and maintain records of all equipment malfunctions, maintenance, or start-up/shutdown activities when they can be expected to result in an exceedance of any applicable emission standard, and shall submit a report of such activities to the department when requested to do so, or when so required by a condition of a permit issued for the corresponding air contamination source. Such reports shall state whether any violations occurred and, if so, whether they were unavoidable, include the time, frequency and duration of the maintenance and/or start-up/shutdown activities, and an estimate of the emission rates of any air contaminants released. Such records shall be maintained for a period of at least five years and made available for review to department representatives upon request. Facility owners or operators subject to continuous stack monitoring and quarterly reporting requirements need not submit additional reports for equipment maintenance or start-up/shutdown activities for the facility to the department.

(c) In the event that emissions of air contaminants in excess of any emission standard in this Subchapter occur due to a malfunction, the facility owner or operator shall compile and maintain records of the malfunction and notify the department as soon as possible during normal working hours, but not later than two working days after becoming aware that the malfunction occurred. When requested by the department, the facility owner or operator shall submit a written report to the department describing the malfunction, the corrective action taken, identification of air contaminants, and an estimate of the emission rates.

(d) The department may also require the owner or operator to include, in reports described 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 8: Emission Unit Definition
Effective between the dates of 03/12/2018 and 03/11/2028

Applicable State Requirement:6 NYCRR Subpart 201-5

Item 8.1:

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

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Emission Unit: 0-00001

Emission Unit Description:

Emission Unit 0-00001 includes all facility manufacturing processes that have associated emission sources/points that are subject to air permitting requirements including: the 4-(2-hydroxyethyl)-1-piperazineethanesulfonic (HEPES) process, the L-Cystine process, the tris-hydrochloride (TRIS) process, the spray dryer, and the small production area.

Building(s): 6351
6357

**Condition 9: Renewal deadlines for state facility permits
Effective between the dates of 03/12/2018 and 03/11/2028**

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

Item 9.1:

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 10: Compliance Demonstration
Effective between the dates of 03/12/2018 and 03/11/2028**

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

Item 10.1:

The Compliance Demonstration activity will be performed for the Facility.

Item 10.2:

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 9
270 Michigan Ave.
Buffalo, NY 14203

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION

Condition 11: Visible Emissions Limited

New York State Department of Environmental Conservation

Permit ID: 9-2940-00175/00001

Facility DEC ID: 9294000175



Effective between the dates of 03/12/2018 and 03/11/2028

Applicable State Requirement:6 NYCRR 211.2

Item 11.1:

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 12: Emission Point Definition By Emission Unit
Effective between the dates of 03/12/2018 and 03/11/2028**

Applicable State Requirement:6 NYCRR Subpart 201-5

Item 12.1:

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

Emission Unit: 0-00001

Emission Point: 00001

Height (ft.): 32 Diameter (in.): 8
NYTMN (km.): 4780.997 NYTME (km.): 181.338 Building: 6357

Emission Point: 00002

Height (ft.): 35 Diameter (in.): 12
NYTMN (km.): 4780.997 NYTME (km.): 181.338 Building: 6351

Emission Point: 00003

Height (ft.): 15 Diameter (in.): 6
NYTMN (km.): 4780.997 NYTME (km.): 181.338 Building: 6357

Emission Point: 00004

Height (ft.): 30 Diameter (in.): 7
NYTMN (km.): 4780.997 NYTME (km.): 181.338 Building: 6357

Emission Point: 00005

Height (ft.): 32 Diameter (in.): 8
NYTMN (km.): 4780.997 NYTME (km.): 181.338 Building: 6351

**Condition 13: Process Definition By Emission Unit
Effective between the dates of 03/12/2018 and 03/11/2028**

Applicable State Requirement:6 NYCRR Subpart 201-5

Item 13.1:

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



Emission Unit: 0-00001

Process: 001

Source Classification Code: 3-01-999-98

Process Description:

Process 001 is associated with the addition of methanol 4-(2-hydroxyethyl)-1-piperazineethanesulfonic (HEPES) manufacturing process. This process occurs in batches. As part of the process, HEPES is transferred to a crystallization reactor where methanol is added. The crystallization slurry is pumped to the centrifuge to remove liquids. Liquids are directed to a mother liquor process tank while the solid HEPES is directed to a flash dryer to remove methanol. While drying, product/particulate and exhaust are vented to a cyclone and bag house for product/particulate recovery. Methanol is removed from the gas exhaust stream via a water scrubber prior to release to the environment.

Emission Source/Control: DRY01 - Combustion

Emission Source/Control: BH001 - Control
Control Type: FABRIC FILTER

Emission Source/Control: CYC01 - Control
Control Type: SINGLE CYCLONE

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

Emission Source/Control: CENT1 - Process

Emission Source/Control: CTZR1 - Process

Emission Source/Control: MLTNK - Process

Item 13.2:

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

Emission Unit: 0-00001

Process: 002

Source Classification Code: 3-01-999-98

Process Description:

Process 002 is associated with the Kinnergy Dryer, which is part of the tris-hydrochloride (TRIS) manufacturing process. The process begins with the addition of hydrochloric acid (HCl) and solid TRIS to a process tank. The process is continued by heating, evaporation, crystallization, chilling and recrystallizing the mixture. Crystals are separated from the mother liquor via centrifuge. The crystals are transferred to a fluid bed dryer (Kinnergy Dryer) to create the final product in solid form. A cyclone after the dryer is used for final recovery of product.

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In the TRIS HCl process, HCl is added during formulation into a vessel that has a vacuum system utilizing a liquid ring pump, the vapors are collected in the pump liquid stream during the vacuum process and neutralized into our water waste discard stream. Upon addition of the TRIS, the solution of TRIS HCl and ultimately crystals become more neutral and do not off gas HCl vapors during processing. It is assumed that there are no HCl emissions from this process.

Emission Source/Control: KNCYC - Control
Control Type: SINGLE CYCLONE

Emission Source/Control: KNDRY - Process

Item 13.3:

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

Emission Unit: 0-00001

Process: 003

Source Classification Code: 3-01-999-98

Process Description:

Process 003 is associated with L-Cystine product manufacturing. The process begins by combining HCl, water and cysteine in a mixing tank. The mixture is then filtered, crystalized, and precipitated using HCl. The solid material is separated from liquid via a centrifuge. Solid material is then fed through a hopper to a dryer and finally a baghouse for product recovery. The dryer, baghouse, and process vessels are connected to an exhaust system which vents to a wet scrubber. The scrubber uses a mixture of water and sodium hydroxide (NaOH) to remove HCl from the process gas stream before release to the atmosphere.

Emission Source/Control: LCYBH - Control
Control Type: FABRIC FILTER

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

Emission Source/Control: LCYCR - Process

Emission Source/Control: LCYCT - Process

Emission Source/Control: LCYDR - Process

Emission Source/Control: LCYMX - Process

Emission Source/Control: LCYWT - Process



Item 13.4:

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

Emission Unit: 0-00001

Process: 004

Source Classification Code: 3-01-999-98

Process Description:

Process 004 is associated with the manufacturing of sodium salts and buffers in the spray dryer room. The process begins with the addition of raw materials to a high temperature atomizer, which sprays out materials to promote water evaporation which results in a solid material. This solid material is fed through a cone to a cyclone to collect the product. A baghouse is attached to the outlet of the cyclone to collect additional product fines.

Emission Source/Control: SPRBH - Control

Control Type: FABRIC FILTER

Emission Source/Control: SPRCY - Control

Control Type: SINGLE CYCLONE

Emission Source/Control: SPRYD - Process

Item 13.5:

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

Emission Unit: 0-00001

Process: 005

Source Classification Code: 3-01-999-98

Process Description:

Process 005 is associated with the small production area and solutions room. A flexible vent hood system is used to provide additional exhaust in work areas for worker comfort.

Emission Source/Control: FILTR - Control

Control Type: FABRIC FILTER

Emission Source/Control: PRODT - Process

Condition 14: Compliance Demonstration

Effective between the dates of 03/12/2018 and 03/11/2028

Applicable State Requirement: 6 NYCRR 212-2.3 (b)

Item 14.1:

The Compliance Demonstration activity will be performed for:

Emission Unit: 0-00001

Emission Point: 00001

Process: 001

Regulated Contaminant(s):

New York State Department of Environmental Conservation

Permit ID: 9-2940-00175/00001

Facility DEC ID: 9294000175



CAS No: 007647-01-0 HYDROGEN CHLORIDE

Item 14.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Hydrochloric Acid (HCl) is emitted during the production of L-Cystine. These emissions of HCl from the product dryer have an emission rate potential (ERP) of 0.67 pounds per hour and an environmental rating of 'B'. As required by 6NYCRR, Part 212-2.3(b) Table 4; the ambient air concentration of HCl is to remain under the annual guideline concentration (AGC) of 20 ug/m³ and short-term guideline concentrations (SGC) of 2100 ug/m³. The exhaust from the dryer will pass through a baghouse to collect product/particulate emissions. The exhaust gas consisting of HCl and remaining particulate will then pass through a wet scrubber which uses a mixture of water and Sodium Hydroxide (NaOH) to remove HCl from the process gas stream. HCl emissions will be controlled by the scrubbing system and exhaust to emission point 00003.

An evaluation of the potential ambient impact was conducted utilizing the DAR-1 screening to determine the fence line impact of HCl emissions compared to the AGC and SGC. The impact was 20.0% of the AGC and the maximum short-term impact was 2.0% of the SGC.

1. The facility will monitor and record the scrubber flow rate and pH of the scrubbing liquid on a daily basis.

2. Records are to be kept on-site documenting the scrubber flow rate and pressure drop and made available to Department representatives on request.

3. The scrubber shall be operated and maintained in accordance with the manufacturer's recommendations and according to good engineering practice.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

Condition 15: Compliance Demonstration
Effective between the dates of 03/12/2018 and 03/11/2028

Applicable State Requirement:6 NYCRR 212-2.3 (b)

Item 15.1:

The Compliance Demonstration activity will be performed for:

New York State Department of Environmental Conservation

Permit ID: 9-2940-00175/00001

Facility DEC ID: 9294000175



Emission Unit: 0-00001
Process: 001

Emission Point: 00001

Regulated Contaminant(s):
CAS No: 000067-56-1 METHYL ALCOHOL

Item 15.2:

Compliance Demonstration shall include the following monitoring:

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

Monitoring Description:

Methanol is emitted during the production of HEPES, an organic buffering agent used in the pharmaceutical industry. These emissions of methanol from the product dryer have an emission rate potential (ERP) greater than 10 pounds per hour and an environmental rating of 'B', and are therefore required by 6NYCRR, Part 212-2.3(b) Table 4 to be controlled by the scrubber to a minimum of 90%. The exhaust from the dryer will pass first through a cyclone product collector and then through a cartridge fabric filter to collect additional product/particulate emissions. The exhaust gas consisting of methanol and remaining particulate will then pass through a packed tower scrubber. Methanol emissions will be controlled by the scrubbing system and exhaust to emission point 00001.

An evaluation of the potential ambient impact was conducted utilizing the DAR-1 screening to determine the fence line impact of methanol emissions compared to the annual guideline concentration (AGC) of 4000 ug/m³ and short-term guideline concentrations (SGC) of 33000 ug/m³. The impact was 2.0% of the AGC and the maximum short-term impact was 2.4% of the SGC based on facility actual emissions.

1. The facility will monitor and record the scrubber flow rate and pressure drop on a daily basis.

2. Records are to be kept on-site documenting the, scrubber flow rate and pressure drop, and made available to Department representatives on request.

VWR Chemicals conducted a performance test on the scrubber on July 14, 2016. Test results show that the scrubber has an average removal efficiency of 99.98%

Parameter Monitored: METHYL ALCOHOL

Lower Permit Limit: 90 percent reduction

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING

New York State Department of Environmental Conservation

Permit ID: 9-2940-00175/00001

Facility DEC ID: 9294000175



DESCRIPTION

Averaging Method: MINIMUM - NOT TO FALL BELOW STATED

VALUE - SEE MONITORING DESCRIPTION

Reporting Requirements: AS REQUIRED - SEE MONITORING DESCRIPTION