

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

May 1, 2020

PERMIT TO INSTALL
205-19

ISSUED TO
Cytex Industries, Inc.

LOCATED AT
3115 Miller Road
Kalamazoo, Michigan 49001

IN THE COUNTY OF
Kalamazoo

STATE REGISTRATION NUMBER
P0447

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: March 27, 2020	
DATE PERMIT TO INSTALL APPROVED: May 1, 2020	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

FGFACILITY CONDITIONS

DESCRIPTION: The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment.

POLLUTION CONTROL EQUIPMENT

Two packed bed scrubbers – EUSCRUBBER203 and EUSCRUBBER204

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. Each Individual HAP	Less than 1 tpy	12-month rolling time period as determined at the end of each calendar month	EUSCRUBBE R203 and EUSCRUBBE R204 Combined	SC VI.3	Administrative Order EPA-5-19-113(a)-MI-01
2. Each Individual HAP	Less than 0.5 tpy	12-month rolling time period as determined at the end of each calendar month	Fugitive Component Leaks	SC VI.3	Administrative Order EPA-5-19-113(a)-MI-01
3. Each Individual HAP	Less than 0.5 tpy	12-month rolling time period as determined at the end of each calendar month	Wastewater Sump	SC VI.3	Administrative Order EPA-5-19-113(a)-MI-01
4. Each Individual HAP	Less than 8.9 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01
5. Aggregate HAPs	Less than 22.4 tpy*	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.3	R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01

* Beginning on permit issuance date, and continuing for the first 12 calendar months, this limit applies to the cumulative total HAP emissions. Thereafter, the limit shall become a 12-month rolling limit.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate EUSCRUBBER203 above the average minimum inlet water flow rate established during the most recent emission test. **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**
2. The permittee shall operate EUSCRUBBER204 above the average minimum inlet water flow rate established during the most recent emission test. **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**
3. The permittee shall implement a component leak detection and repair (LDAR) program that consists of the following: **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**
 - a) An annual monitoring inspection in accordance with 40 CFR, Part 60, Appendix A, Method 21 of all components (pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in organic HAP service) and including difficult to monitor components, as defined in R 336.1104(e). In organic HAP service means that a piece

of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP as determined according to the provisions of 40 CFR 63.180(d).

- b) A component is leaking when a concentration of more than 500 ppm, using an instrument calibrated with methane or hexane, is measured by Method 21.
 - c) A component that is found to be leaking during the annual monitoring inspection or for another reason shall be repaired and re-monitored to verify that emissions are below 500 ppm, as soon as possible, but not more than 15 days after the leak is detected. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. Until the leak is repaired and retested to verify a successful repair, the component that is causing the leak shall bear a weather-resistant, numbered identifying tag that indicates the date the leak was discovered.
 - d) If a leak cannot be repaired within 15 calendar days because the leaking component cannot be repaired unless a process unit is shut down, then the permittee shall maintain a log of the non-repair and the leak shall be repaired at the next unit turnaround. Monitoring to verify repair must occur within 15 days after startup of the process unit following the repair.
 - e) An unsafe-to-monitor component, as defined in R 336.1121 (b), shall not be monitored until conditions would no longer expose monitoring personnel to immediate danger.
 - f) The permittee shall maintain a log of all leaks detected pursuant to the provisions of Paragraph 23 of Administrative Order EPA-5-19-113(a)-MI-01 that cannot be repaired within 15 days. This log shall identify all of the following:
 - i. The leaking component;
 - ii. The date on which the leak was discovered;
 - iii. The reason why the leak cannot be repaired within 15 days;
 - iv. The estimated date of repair;
 - v. The actual date of repair; and
 - vi. The number of the identifying tag.
 - g) The permittee shall maintain a log of all unsafe-to-monitor components. This log shall list all of the following information:
 - i. The unsafe-to-monitor process unit;
 - ii. The number of the identifying tag;
 - iii. The reason why the component was unsafe to monitor; and
 - iv. The date, or dates, on which the component was unsafe to monitor.
4. The permittee shall implement an effluent sump (Equipment No. 633-001) LDAR program that consists of the following: **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**
- a) An annual monitoring inspection in accordance with 40 CFR, Part 60, Appendix A, Method 21 at the locations indicated in Attachment A of Administrative Order EPA-5-19-113(a)-MI-01.
 - b) A sump is leaking when a concentration of more than 500 ppm, using an instrument calibrated with methane or hexane, is measured by Method 21.
 - c) If the sump is found to be leaking during the annual monitoring inspection, the permittee shall investigate the root cause of the emissions, determine reasonably available corrective actions, and undertake as expeditiously as reasonably possible such reasonably available corrective actions as are necessary to correct the root cause and to prevent a recurrence.
 - d) The permittee shall maintain records of each root cause investigation and corrective actions that shall include:
 - i. An identification and detailed analysis setting forth the root cause and any material contributing cause(s);
 - ii. An analysis of the measure/es reasonably available to prevent the root cause and any material contributing cause(s) from recurring. This analysis shall include an evaluation of possible design, operational, and maintenance measures; and
 - iii. The corrective actions taken or to be taken.

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall continuously monitor and record 15-minutes average inlet water flow rate for EUSCRUBBER203 and calculate 3-hour block averages to demonstrate compliance, as required by Paragraph 21 and 22 of Administrative Order EPA-5-19-113(a)-MI-01. **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**
2. The permittee shall continuously monitor and record 15-minutes average inlet water flow rate for EUSCRUBBER204 and calculate 3-hour block averages to demonstrate compliance, as required by Paragraph 21 and 22 of Administrative Order EPA-5-19-113(a)-MI-01. **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**
3. The permittee shall annually quantify and maintain records of emissions from each HAP emission source, including any deviations from a control device, process upsets, or other HAP emissions events; and total emissions for the facility for each single HAP emitted and for combined HAPs. For fugitive sources this method must be the 1995 Protocol for Equipment Leak Emission Estimates for Fugitive Sources (EPA-453/R-95-017). **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**

VII. REPORTING

1. Not later than 60 calendar days after the end of the quarter in which the annual monitoring inspection is completed as required by SC III.3, the permittee shall submit to the AQD District Supervisor a report that contains all of the following information for that monitoring period: **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**
 - a) The total number of components tested, by type;
 - b) The total number of components which are found leaking and which are repaired, by type;
 - c) The total number of components, by process unit and type, which are found to be leaking and which are not repaired within the required time period and the reason for non-repair;
 - d) The type or types of monitoring equipment utilized; and
 - e) The total number of unsafe-to-monitor components that are logged as required.
2. Not later than 60 calendar days after the end of the quarter in which the annual monitoring inspection is completed as required by SC III.4, the permittee shall submit to the AQD District Supervisor a report that contains all of the following information for that monitoring period: **(R 336.1205(3), Administrative Order EPA-5-19-113(a)-MI-01)**
 - a) The areas of the sump tested, the dates tested, and the readings; and
 - b) records of each root cause investigation and corrective actions.

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).