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Facility Name: **Polymark Corporation**

Application Number: **14-4563**

Date: **October 21, 1998**

GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCE(S)

The proposed source(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed source(s) has already begun or has been completed prior to the date the Director of the Ohio Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's

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approval constitutes a violation of Ohio Administrative Code (OAC) Rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 15 days of the effective date of this permit to install.

PUBLIC DISCLOSURE

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC Rule 3745-49-03.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

BEST AVAILABLE TECHNOLOGY

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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PERMIT TO OPERATE APPLICATION

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be made at least 90 days prior to start-up of the source.

NINETY DAY OPERATING PERIOD

The facility will be permitted to operate during a 90-day period in accordance with OAC Rule 3745-35-02(C)(4)(b). The purpose of this period of operation is to fulfill the performance tests conditions used in the determination of compliance with the provisions of this Permit to Install or other applicable Ohio EPA rules.

SOURCE OPERATION AFTER COMPLETION OF CONSTRUCTION

This facility is permitted to operate each source described by this permit to install for period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies.

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The air contaminant emissions units listed below comprise the Permit to Install for **Polymark Corporation** located in **Hamilton** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Ohio EPA Source Number	Source Identification Description	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
K001 Mod	Single head screen printing line with adsorber/ oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with Ohio EPA Air Toxic Policy	3745-15-07	See General Terms
			3745-21-07 (G)(2)*	Less stringent
			3745-31-05	See Additional Special Terms and Conditions Section A.
K002 Mod	Single head screen printing line with adsorber/ oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with Ohio EPA Air Toxic Policy	3745-15-07	See General Terms
			3745-21-07 (G)(2)*	Less stringent
			3745-31-05	See Additional Special Terms and Conditions Section A.
K004 Mod	Single head screen printing line with adsorber/ oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with	3745-15-07	See General Terms
			3745-21-07 (G)(2)*	Less stringent

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
K004 Mod Cont'd	oxidizer	Ohio EPA Air Toxic Policy	3745-31-05	See Additional Special Terms and Conditions Section A.
R006 Mod	Double head screen printing line with adsorber/oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with Ohio EPA Air Toxic Policy	3745-15-07 3745-21-07 (G)(2)* 3745-31-05	See General Terms Less stringent See Additional Special Terms and Conditions Section A.
R007 Mod	Double head screen printing line with adsorber/oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with Ohio EPA Air Toxic Policy	3745-15-07 3745-21-07 (G)(2)* 3745-31-05	See General Terms Less stringent See Additional Special Terms and Conditions Section A.
R009 Mod	Double head screen printing line with adsorber/oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with Ohio EPA Air Toxic Policy	3745-15-07 3745-21-07 (G)(2)* 3745-31-05	See General Terms Less stringent See Additional Special Terms and Conditions Section A.

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
R010 Mod	Double head screen printing line with adsorber/oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with Ohio EPA Air Toxic Policy	3745-15-07	See General Terms
			3745-21-07 (G)(2)*	Less stringent
			3745-31-05	See Additional Special Terms and Conditions Section A.
R011 Mod	Single head screen printing press line with adsorber/oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with Ohio EPA Air Toxic Policy	3745-15-07	See General Terms
			3745-21-07 (G)(2)*	Less stringent
			3745-31-05	See Additional Special Terms and Conditions Section A.
R012	Double head screen printing press line with adsorber/oxidizer	Adsorber/oxidizer with overall control efficiency of 85.5 percent or greater and compliance with Ohio EPA Air Toxic Policy	3745-15-07	See General Terms
			3745-21-07 (G)(2)*	Less stringent
			3745-31-05	See Additional Special Terms and Conditions Section A.

* The emission limitations/control requirements established by this rule are less stringent than those established by Ohio Administrative Code rule 3745-31-05(BAT).

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SUMMARY

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons/Year</u>
Organic Compound	45.38

WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

MALFUNCTION/ABATEMENT

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Hamilton County Dept. of Env. Services, 1632 Central Parkway, Cincinnati, OH 45210.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

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AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

NINETY DAY OPERATING PERIOD

The facility will be permitted to operate during a 90-day period in accordance with OAC Rule 3745-35-02(C)(4)(b). The purpose of this period of operation is to fulfill the performance tests conditions used in the determination of compliance with the provisions of this Permit to Install or other applicable Ohio EPA rules.

CONSTRUCTION COMPLIANCE CERTIFICATION

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

A. Applicable Emission Limitations and/or Control Requirements

1. The total combined emissions from emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 shall not exceed 45.38 tons OC per year as a rolling, 12-month summation.

In order to ensure federal enforceability for the first twelve-months of operation, the following emission limitations shall not be exceeded:

<u>Months</u>	<u>Emission Limit</u>
0-1	22.69 TPY of OC
1-2	22.69 TPY of OC
2-3	22.69 TPY of OC
3-4	22.69 TPY of OC

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<u>Months</u>	<u>Emission Limit</u>
4-5	22.69 TPY of OC
5-6	22.69 TPY of OC
6-7	26.47 TPY of OC
7-8	30.25 TPY of OC
8-9	34.04 TPY of OC
9-10	37.82 TPY of OC
10-11	41.60 TPY of OC
11-12	45.38 TPY of OC

2. In addition to the rolling, 12-month emission limitation specified in Additional Special Term and Condition A.1, the following hourly emission limitations* shall not be exceeded:

Emissions Unit	Emission Limit
K001	6.87 Lbs. OC/Hr
K002	6.87 Lbs. OC/Hr
K004	6.87 Lbs. OC/Hr
R006	7.18 Lbs. OC/Hr
R007	7.18 Lbs. OC/Hr
R009	7.18 Lbs. OC/Hr
R010	7.18 Lbs. OC/Hr
R011	14.18 Lbs. OC/Hr
R012	13.79 Lbs. OC/Hr

- * The individual hourly OC emission limit is based on the emissions units' potential to emit. Therefore, no hourly recordkeeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limit.

3. The organic compounds emitted from emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 shall be vented to a control device with a minimum destruction efficiency of 90 percent by weight, and an overall control efficiency of 85.5 percent by weight.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when emissions

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units K001, K002, K004, R006, R007, R009, R010, R011, and/or R012 are in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions units were in compliance.

2. The temperature of the air flow leaving the oxidizer to begin the desorption cycle shall not be less than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions units were in compliance.
3. The time period for the adsorption/desorption (regeneration) cycle shall be within 5 percent of the average cycle demonstrated during the most recent emission test that demonstrated the emissions units were in compliance.
4. The dryers and hoods associated with printing lines K001, K002, K004, R006, R007, R009, R010, R011, and R012 shall be vented directly to the control device.
5. The room housing printing lines K001, K002, K004, R006, R007, R009, R010, R011, and R012 shall be maintained at a negative pressure. All ventilation exhausts shall be vented through the control device.

C. Monitoring and Recordkeeping Requirements

1. The permittee shall collect and record the following information each month for all organic compounds employed in emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012:
 - a. the name and identification of each liquid organic compound contained in coatings, adhesives, and cleanup materials employed;
 - b. the amount of each liquid organic compound employed in coatings, adhesives, and cleanup materials, in gallons;

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- c. the OC content of each liquid organic compound employed in coatings, adhesives, and cleanup materials, in lbs OC/gallon;
- d. the total combined monthly OC emissions (the summation of line (b) multiplied by line (c) for each organic compound employed in coatings, adhesives, and cleanup materials multiplied by the overall control efficiency established during the most recent emission test that demonstrated the emissions units were in compliance); and,
- e. the rolling, twelve-month summation of OC emissions (the summation of the current months emission total and the previous eleven months emissions totals).

This information does not have to be kept on a line-by-line basis.

- 2. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the thermal incinerator is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
- 3. The permittee shall collect and record the following information for each day:
 - a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the thermal incinerator was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions units were in compliance; and,
 - b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment,

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when the associated emissions units were in operation.

4. The permittee shall collect and record the time period of the regeneration cycle of the control device on a daily basis.
5. The permittee shall verify the room housing emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 is maintained under negative pressure on a daily basis. This testing shall be performed by the use of a velocity meter. Both the air speed and direction shall be collected and recorded.
6. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created, unless otherwise specified in this permit. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify the following information:
 - a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified in Additional Special Term and Condition B.1. and B.2.;
 - b. all days in which the regeneration cycle does not comply with the requirements specified in Additional Special Term and Condition B.3.;
 - c. any monthly record which shows an exceedence of the rolling, twelve-month summation limitation specified in Additional Special Term and Condition A.1.a; and,

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- d. any daily record which shows that the room housing emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 was not maintained under negative pressure.
2. The permittee shall submit annual reports which specify the total combined OC emissions for emissions units K001, K002, K004, R006, R007, R009, R010, R011, and R012 for the previous calendar year. These reports shall be submitted by January 30 of each year and cover the previous calendar year.
3. The permittee shall submit required reports in the following manner:
 - a. reports of any required monitoring and/or record keeping information shall be submitted to the Hamilton County Department of Environmental Services; and,
 - b. except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Hamilton County Department of Environmental Services. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 30, April 30, July 30, and October 30 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06).

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E. Compliance Methods/Testing Requirements

1. Compliance with the emission limits in Additional Special Term and Condition A.1.a shall be demonstrated by the recordkeeping in Additional Special Term and Condition C.1.
2. The permittee shall conduct, or have conducted, emission testing for these emissions units in accordance with the following requirements:
 - a. the emission testing shall be conducted within 90 days of the installation and start up of the control device;
 - b. the emission testing shall be conducted to demonstrate compliance with the 85.5 percent overall control efficiency;
 - c. the following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's Guidelines for Determining Capture Efficiency, dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.) The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or the approved alternative test protocol (e.g., the mass balance protocol approved on 10/25/95). The test methods and procedures selected shall be based on a consideration of the diversity of the organic

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species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA; and,

- d. the test(s) shall be conducted while the emissions units are operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Dept. of Env. Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Dept. of Env. Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions units operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s).

Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Dept. of Env. Service's refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Dept. of Env. Service shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Dept. of Env. Service within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Dept. of Env. Service.

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F. Miscellaneous Requirements

1. This Permit To Install (PTI) supersedes the following PTI's for the respective emissions unit:

PTI 14-3294, for emissions unit K001;
PTI 14-3294, for emissions unit K002;
PTI 14-3294, for emissions unit K004;
PTI 14-1951, for emissions unit R006;
PTI 14-2166, for emissions unit R007;
PTI 14-3475, for emissions unit R009;
PTI 14-4345, for emissions unit R010; and,
PTI 14-4408, for emissions unit R011.

2. This permit allows the use of the coatings, adhesives, and cleanup materials specified by the permittee in the application for PTI number 14-4563. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the OC emission limitation(s) specified in this permit were established in accordance with the Ohio EPA's "Air Toxics Policy" and are based on both the coating and cleanup material formulation data and the design parameters of the emissions units' exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the Screen3 model and a comparison of the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground Level Concentration (MAGLC). The following summarizes the results of the modeling for each pollutant:

Pollutant: Cyclohexanone

TLV (ug/m3): 100,000

Maximum Hourly Emission Rate (lbs/hr): 11.98

Predicted 1-Hour Maximum Ground-Level Concentration at the Fenceline (ug/m3): 336

Maximum Acceptable Ground-Level Concentration (MAGLC) (ug/m3): 2381

Any of the following changes may be deemed a "modification" to the emissions unit and, as such, prior notification to and approval from the Hamilton County Dept. of Env. Service is required, including the possible

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issuance of modifications to PTI number 14-4563 and the operating permit:

- a. any changes in the composition of the coatings or cleanup materials, or the use of new coatings or cleanup materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
- b. any change to the emissions units or their exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height) that would result in an exceedance of any MAGLC specified in the above table; and,
- c. any change to the emissions units or their method of operation that would either require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01.