



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

**RE: FINAL PERMIT TO INSTALL
LUCAS COUNTY
Application No: 04-01209**

CERTIFIED MAIL

	TOXIC REVIEW
	PSD
	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

DATE: 3/8/00

Johns Manville Plant 1
Steve Shelt
6050 River Rd
Waterville, OH 43566

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo
Field Operations and Permit Section
Division of Air Pollution Control



**Permit To Install
Terms and Conditions**

**Issue Date: 3/8/00
Effective Date: 3/8/00**

FINAL PERMIT TO INSTALL 04-01209

Application Number: 04-01209
APS Premise Number: 0448000012
Permit Fee: **\$1400**
Name of Facility: Johns Manville Plant 1
Person to Contact: Steve Shelt
Address: 6050 River Rd
Waterville, OH 43566

Location of proposed air contaminant source(s) [emissions unit(s)]:
**6050 River Rd
Waterville, Ohio**

Description of proposed emissions unit(s):
Marble melt t-glass machines (7).

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. 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. 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.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be

made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.11 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

- ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35 , the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. 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. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the source(s) covered by this permit.

B. State Only Enforceable Permit To Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- 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 state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping 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 appropriate Ohio EPA District Office or local air agency. 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 31, April 30, July 31, and October 31 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.)

3. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

4. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

5. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. 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.

6. Construction of New Sources(s)

The proposed emissions unit(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 emissions unit(s) has already begun or has been completed prior to the date the Director of the 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 approval constitutes a violation of 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.

7. 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.

8. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

9. 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.

10. 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.

11. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

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 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. Permit To Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

**SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
particulates	1.82
organics	38.6

Part II -Facility Specific Terms and Conditions

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - Special Terms and Conditions for Specific Emissions Unit(s)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine w/mist elimination system (P046) Diethylene Glycol (DEG) applicator and sizing application	OAC rule 3745-31-05(A)(3)	0.06 pound particulate emissions per hour 0.26 ton particulates per 12-month rolling summation Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average
	OAC rule 3745-17-11(B)(1)	OC - 919 pounds per month OC - 5.51 tons per 12-month rolling summation
	OAC rule 3745-17-07(A)(1)	See section A.2.a
		See section A.2.a

2. Additional Terms and Conditions

- 2.a The limits established pursuant to OAC 3745-31-05(A)(3) are as stringent or more stringent than this applicable regulation.

II. Operational Restrictions

The permittee shall operate a mist elimination system whenever this emissions unit is in operation to minimize the particulate emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and,
 - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records that document any time periods when the mist elimination system was not in service when the emissions unit was in operation.
3. Each month the permittee shall record the following information for the month:
 - a. the pounds of DEG applied
 - b. the pounds of glass pulled

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Toledo Division of Environmental Services within 30 days after the event occurs..
2. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the mist elimination system was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.
3. The permittee shall notify the Toledo Division of Environmental Services in writing of any monthly record showing that the pounds per month of DEG exceeded 919. The notification

shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**
Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(1)
 - b. **Emission Limitation**
0.06 pound particulate emissions per hour and 0.26 ton particulate emissions per rolling 12-month period.

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A. III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(10).
 - c. **Emission Limitation**
OC - 919 pounds per month and OC - 5.51 tons per rolling 12-month period

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A. III.3 and use of an emission factor to be established from initial stack testing(USEPA Method 25A).

VI. Miscellaneous Requirements None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine (P046) Diethylene Glycol (DEG) applicator and sizing application		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

This permit allows the use of the coatings and cleanup. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on both the coating and cleanup material formulation data and the design parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN 3.0 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(sum of P046 to P052):

Pollutant: **Methanol**

TLV (ug/m3): **262,000**

Maximum Hourly Emission Rate (lbs/hr): **0.252**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **14.7**

MAGLC (ug/m3): **6,238**

Pollutant: **Isopropyl Alcohol**

TLV (ug/m3): **490,000**

Maximum Hourly Emission Rate (lbs/hr): **2.535**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **147.8**

MAGLC (ug/m3): **11,667**

As long as the application of the "Air Toxics Policy" continues to show compliance with the applicable MAGLC, the permittee may implement any of the following changes with prior notification to and approval from the appropriate Ohio EPA District Office or local air agency:

- 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 unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height);

- c. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01(B)(6)]; and
- d. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" as defined in OAC rule 3745-77-01(V).

For any change to the emissions unit or its 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, the permittee shall obtain a permit to install prior to the change.

Part III - Special Terms and Conditions for Specific Emissions Unit(s)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine w/mist elimination system (P047) Diethylene Glycol (DEG) applicator and sizing application	OAC rule 3745-31-05(A)(3)	0.06 pound particulate emissions per hour 0.26 ton particulates per 12-month rolling summation Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average
	OAC rule 3745-17-11(B)(1)	See section A.2.a
	OAC rule 3745-17-07(A)(1)	See section A.2.a

2. Additional Terms and Conditions

- 2.a The limits established pursuant to OAC 3745-31-05(A)(3) are as stringent or more stringent than this applicable regulation.

II. Operational Restrictions

The permittee shall operate a mist elimination system whenever this emissions unit is in operation to minimize the particulate emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and,
 - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records that document any time periods when the mist elimination system was not in service when the emissions unit was in operation.
3. Each month the permittee shall record the following information for the month:
 - a. the pounds of DEG applied
 - b. the pounds of glass pulled

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Toledo Division of Environmental Services within 30 days after the event occurs..
2. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the mist elimination system was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

3. The permittee shall notify the Toledo Division of Environmental Services in writing of any monthly record showing that the pounds per month of DEG exceeded 919. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**
Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(1)
 - b. **Emission Limitation**
0.06 pound particulate emissions per hour and 0.26 ton particulate emissions per rolling 12-month period.

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(10).
 - c. **Emission Limitation**
OC - 919 pounds per month and OC - 5.51 tons per rolling 12-month period

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.3 and use of an emission factor to be established from initial stack testing (USEPA Method 25A).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine (P047) Diethylene Glycol (DEG) applicator and sizing application		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

This permit allows the use of the coatings and cleanup. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on both the coating and cleanup material formulation data and the design

parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN 3.0 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(sum of P046 to P052):

Pollutant: **Methanol**

TLV (ug/m3): **262,000**

Maximum Hourly Emission Rate (lbs/hr): **0.252**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **14.7**

MAGLC (ug/m3): **6,238**

Pollutant: **Isopropyl Alcohol**

TLV (ug/m3): **490,000**

Maximum Hourly Emission Rate (lbs/hr): **2.535**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **147.8**

MAGLC (ug/m3): **11,667**

As long as the application of the "Air Toxics Policy" continues to show compliance with the applicable MAGLC, the permittee may implement any of the following changes with prior notification to and approval from the appropriate Ohio EPA District Office or local air agency:

- 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 unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height);
- c. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01(B)(6)]; and

- d. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" as defined in OAC rule 3745-77-01(V).

For any change to the emissions unit or its 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, the permittee shall obtain a permit to install prior to the change.

Part III - Special Terms and Conditions for Specific Emissions Unit(s)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine w/mist elimination system (P048) Diethylene Glycol (DEG) applicator and sizing application	OAC rule 3745-31-05(A)(3)	0.06 pound particulate emissions per hour 0.26 ton particulates per 12-month rolling summation Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average
	OAC rule 3745-17-11(B)(1)	OC - 919 pounds per month OC - 5.51 tons per 12-month rolling summation
	OAC rule 3745-17-07(A)(1)	See section A.2.a
		See section A.2.a

2. Additional Terms and Conditions

- 2.a The limits established pursuant to OAC 3745-31-05(A)(3) are as stringent or more stringent than this applicable regulation.

II. Operational Restrictions

The permittee shall operate a mist elimination system whenever this emissions unit is in operation to minimize the particulate emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and,
 - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records that document any time periods when the mist elimination system was not in service when the emissions unit was in operation.
3. Each month the permittee shall record the following information for the month:
 - a. the pounds of DEG applied
 - b. the pounds of glass pulled

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Toledo Division of Environmental Services within 30 days after the event occurs..
2. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the mist elimination system was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

3. The permittee shall notify the Toledo Division of Environmental Services in writing of any monthly record showing that the pounds per month of DEG exceeded 919. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**
Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(1)
 - b. **Emission Limitation**
0.06 pound particulate emissions per hour and 0.26 ton particulate emissions per rolling 12-month period.

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.3. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(10).
 - c. **Emission Limitation**
OC - 919 pounds per month and OC - 5.51 tons per rolling 12-month period

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.4 and use of an emission factor to be established from initial stack testing (USEPA Method 25A).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine (P048) Diethylene Glycol (DEG) applicator and sizing application		

2. Additional Terms and Conditions

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

This permit allows the use of the coatings and cleanup. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on both the coating and cleanup material formulation data and the design

parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN 3.0 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(sum of P046 to P052):

Pollutant: **Methanol**

TLV (ug/m3): **262,000**

Maximum Hourly Emission Rate (lbs/hr): **0.252**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **14.7**

MAGLC (ug/m3): **6,238**

Pollutant: **Isopropyl Alcohol**

TLV (ug/m3): **490,000**

Maximum Hourly Emission Rate (lbs/hr): **2.535**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **147.8**

MAGLC (ug/m3): **11,667**

As long as the application of the "Air Toxics Policy" continues to show compliance with the applicable MAGLC, the permittee may implement any of the following changes with prior notification to and approval from the appropriate Ohio EPA District Office or local air agency:

- 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 unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height);
- c. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01(B)(6)]; and

- d. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" as defined in OAC rule 3745-77-01(V).

For any change to the emissions unit or its 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, the permittee shall obtain a permit to install prior to the change.

Part III - Special Terms and Conditions for Specific Emissions Unit(s)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine w/mist elimination system (P049) Diethylene Glycol (DEG) applicator and sizing application	OAC rule 3745-31-05(A)(3)	0.06 pound particulate emissions per hour 0.26 ton particulates per 12-month rolling summation Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average
	OAC rule 3745-17-11(B)(1)	OC - 919 pounds per month OC - 5.51 tons per 12-month rolling summation
	OAC rule 3745-17-07(A)(1)	See section A.2.a
		See section A.2.a

2. Additional Terms and Conditions

- 2.a The limits established pursuant to OAC 3745-31-05(A)(3) are as stringent or more stringent than this applicable regulation.

II. Operational Restrictions

The permittee shall operate a mist elimination system whenever this emissions unit is in operation to minimize the particulate emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and,
 - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records that document any time periods when the mist elimination system was not in service when the emissions unit was in operation.
3. Each month the permittee shall record the following information for the month:
 - a. the pounds of DEG applied
 - b. the pounds of glass pulled

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Toledo Division of Environmental Services within 30 days after the event occurs..
2. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the mist elimination system was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.
3. The permittee shall notify the Toledo Division of Environmental Services in writing of any monthly record showing that the pounds per month of DEG exceeded 919. The notification

shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**
Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(1)
 - b. **Emission Limitation**
0.06 pound particulate emissions per hour and 0.26 ton particulate emissions per rolling 12-month period.

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A. III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(10).
 - c. **Emission Limitation**
OC - 919 pounds per month and OC - 5.51 tons per rolling 12-month period

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A. III.3 and use of an emission factor to be established from initial stack testing(USEPA Method 25A).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine (P049) Diethylene Glycol (DEG) applicator and sizing application		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

This permit allows the use of the coatings and cleanup. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on both the coating and cleanup material formulation data and the design

parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN 3.0 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(sum of P046 to P052):

Pollutant: **Methanol**

TLV (ug/m3): **262,000**

Maximum Hourly Emission Rate (lbs/hr): **0.252**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **14.7**

MAGLC (ug/m3): **6,238**

Pollutant: **Isopropyl Alcohol**

TLV (ug/m3): **490,000**

Maximum Hourly Emission Rate (lbs/hr): **2.535**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **147.8**

MAGLC (ug/m3): **11,667**

As long as the application of the "Air Toxics Policy" continues to show compliance with the applicable MAGLC, the permittee may implement any of the following changes with prior notification to and approval from the appropriate Ohio EPA District Office or local air agency:

- 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 unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height);
- c. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01(B)(6)]; and

- d. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" as defined in OAC rule 3745-77-01(V).

For any change to the emissions unit or its 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, the permittee shall obtain a permit to install prior to the change.

Part III - Special Terms and Conditions for Specific Emissions Unit(s)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine w/mist elimination system (P050) Diethylene Glycol (DEG) applicator and sizing application	OAC rule 3745-31-05(A)(3)	0.06 pound particulate emissions per hour 0.26 ton particulates per 12-month rolling summation Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average
	OAC rule 3745-17-11(B)(1)	OC - 919 pounds per month OC - 5.51 tons per 12-month rolling summation
	OAC rule 3745-17-07(A)(1)	See section A.2.a
		See section A.2.a

2. Additional Terms and Conditions

- 2.a The limits established pursuant to OAC 3745-31-05(A)(3) are as stringent or more stringent than this applicable regulation.

II. Operational Restrictions

The permittee shall operate a mist elimination system whenever this emissions unit is in operation to minimize the particulate emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and,
 - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records that document any time periods when the mist elimination system was not in service when the emissions unit was in operation.
3. Each month the permittee shall record the following information for the month:
 - a. the pounds of DEG applied
 - b. the pounds of glass pulled

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Toledo Division of Environmental Services within 30 days after the event occurs..
2. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the mist elimination system was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.
3. The permittee shall notify the Toledo Division of Environmental Services in writing of any monthly record showing that the pounds per month of DEG exceeded 919. The notification

shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

a. **Emission Limitation**

Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average

Applicable Compliance Method

Compliance shall be demonstrated by the record keeping requirements of section A.III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(1)

b. **Emission Limitation**

0.06 pound particulate emissions per hour and 0.26 ton particulate emissions per rolling 12-month period.

Applicable Compliance Method

Compliance shall be demonstrated by the record keeping requirements of section A. III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(10).

c. **Emission Limitation**

OC - 919 pounds per month and OC - 5.51 tons per rolling 12-month period

Applicable Compliance Method

Compliance shall be demonstrated by the record keeping requirements of section A. III.3 and use of an emission factor to be established from initial stack testing(USEPA Method 25A).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine (P050) Diethylene Glycol (DEG) applicator and sizing application		

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

This permit allows the use of the coatings and cleanup. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on both the coating and cleanup material formulation data and the design

parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN 3.0 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(sum of P046 to P052):

Pollutant: **Methanol**

TLV (ug/m3): **262,000**

Maximum Hourly Emission Rate (lbs/hr): **0.252**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **14.7**

MAGLC (ug/m3): **6,238**

Pollutant: **Isopropyl Alcohol**

TLV (ug/m3): **490,000**

Maximum Hourly Emission Rate (lbs/hr): **2.535**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **147.8**

MAGLC (ug/m3): **11,667**

As long as the application of the "Air Toxics Policy" continues to show compliance with the applicable MAGLC, the permittee may implement any of the following changes with prior notification to and approval from the appropriate Ohio EPA District Office or local air agency:

- 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 unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height);
- c. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01(B)(6)]; and

- d. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" as defined in OAC rule 3745-77-01(V).

For any change to the emissions unit or its 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, the permittee shall obtain a permit to install prior to the change.

Part III - Special Terms and Conditions for Specific Emissions Unit(s)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine w/mist elimination system (P051) Diethylene Glycol (DEG) applicator and sizing application	OAC rule 3745-31-05(A)(3)	0.06 pound particulate emissions per hour 0.26 ton particulates per 12-month rolling summation Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average
	OAC rule 3745-17-11(B)(1)	OC - 919 pounds per month OC - 5.51 tons per 12-month rolling summation
	OAC rule 3745-17-07(A)(1)	See section A.2.a
		See section A.2.a

2. Additional Terms and Conditions

- 2.a The limits established pursuant to OAC 3745-31-05(A)(3) are as stringent or more stringent than this applicable regulation.

II. Operational Restrictions

The permittee shall operate a mist elimination system whenever this emissions unit is in operation to minimize the particulate emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and,
 - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records that document any time periods when the mist elimination system was not in service when the emissions unit was in operation.
3. Each month the permittee shall record the following information for the month:
 - a. the pounds of DEG applied
 - b. the pounds of glass pulled

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Toledo Division of Environmental Services within 30 days after the event occurs..
2. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the mist elimination system was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.
3. The permittee shall notify the Toledo Division of Environmental Services in writing of any monthly record showing that the pounds per month of DEG exceeded 919. The notification

shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**
Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(1)
 - b. **Emission Limitation**
0.06 pound particulate emissions per hour and 0.26 ton particulate emissions per rolling 12-month period.

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A. III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(10).
 - c. **Emission Limitation**
OC - 919 pounds per month and OC - 5.51 tons per rolling 12-month period

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A. III.3 and use of an emission factor to be established from initial stack testing(USEPA Method 25A).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine (P051) Diethylene Glycol (DEG) applicator and sizing application		

2. Additional Terms and Conditions

- 2.a. None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

This permit allows the use of the coatings and cleanup. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on both the coating and cleanup material formulation data and the design

parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN 3.0 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(sum of P046 to P052):

Pollutant: **Methanol**

TLV (ug/m3): **262,000**

Maximum Hourly Emission Rate (lbs/hr): **0.252**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **14.7**

MAGLC (ug/m3): **6,238**

Pollutant: **Isopropyl Alcohol**

TLV (ug/m3): **490,000**

Maximum Hourly Emission Rate (lbs/hr): **2.535**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **147.8**

MAGLC (ug/m3): **11,667**

As long as the application of the "Air Toxics Policy" continues to show compliance with the applicable MAGLC, the permittee may implement any of the following changes with prior notification to and approval from the appropriate Ohio EPA District Office or local air agency:

- 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 unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height);
- c. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01(B)(6)]; and

- d. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" as defined in OAC rule 3745-77-01(V).

For any change to the emissions unit or its 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, the permittee shall obtain a permit to install prior to the change.

Part III - Special Terms and Conditions for Specific Emissions Unit(s)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine w/mist elimination system (P052) Diethylene Glycol (DEG) applicator and sizing application	OAC rule 3745-31-05(A)(3)	0.06 pound particulate emissions per hour 0.26 ton particulates per 12-month rolling summation Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average
	OAC rule 3745-17-11(B)(1)	OC - 919 pounds per month OC - 5.51 tons per 12-month rolling summation
	OAC rule 3745-17-07(A)(1)	See section A.2.a
		See section A.2.a

2. Additional Terms and Conditions

- 2.a The limits established pursuant to OAC 3745-31-05(A)(3) are as stringent or more stringent than this applicable regulation.

II. Operational Restrictions

The permittee shall operate a mist elimination system whenever this emissions unit is in operation to minimize the particulate emissions.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and,
 - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall maintain daily records that document any time periods when the mist elimination system was not in service when the emissions unit was in operation.
3. Each month the permittee shall record the following information for the month:
 - a. the pounds of DEG applied
 - b. the pounds of glass pulled

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Toledo Division of Environmental Services within 30 days after the event occurs..
2. The permittee shall notify the Toledo Division of Environmental Services in writing of any daily record showing that the mist elimination system was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.
3. The permittee shall notify the Toledo Division of Environmental Services in writing of any monthly record showing that the pounds per month of DEG exceeded 919. The notification

shall include a copy of such record and shall be sent to the Toledo Division of Environmental Services within 30 days after the event occurs.

V. Testing Requirements

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):
 - a. **Emission Limitation**
Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A.III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(1)
 - b. **Emission Limitation**
0.06 pound particulate emissions per hour and 0.26 ton particulate emissions per rolling 12-month period.

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A. III.1. If required, the permittee shall demonstrate compliance by the methods and procedures of OAC 3745-17-03(B)(10).
 - c. **Emission Limitation**
OC - 919 pounds per month and OC - 5.51 tons per rolling 12-month period

Applicable Compliance Method
Compliance shall be demonstrated by the record keeping requirements of section A. III.3 and use of an emission factor to be established from initial stack testing(USEPA Method 25A).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Electric T-Glass marble melt machine (P052) Diethylene Glycol (DEG) applicator and sizing application		

2. Additional Terms and Conditions

- 2.a. None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

This permit allows the use of the coatings and cleanup. In conjunction with the best available technology requirements of OAC rule 3745-31-05, the organic compound emission limitation(s) specified in this permit was (were) established in accordance with the Ohio EPA's "Air Toxics Policy" and is (are) based on both the coating and cleanup material formulation data and the design

parameters of the emissions unit's exhaust system, as specified in the application. Compliance with the Ohio EPA's "Air Toxics Policy" was demonstrated for each pollutant based on the SCREEN 3.0 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(sum of P046 to P052):

Pollutant: **Methanol**

TLV (ug/m3): **262,000**

Maximum Hourly Emission Rate (lbs/hr): **0.252**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **14.7**

MAGLC (ug/m3): **6,238**

Pollutant: **Isopropyl Alcohol**

TLV (ug/m3): **490,000**

Maximum Hourly Emission Rate (lbs/hr): **2.535**

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): **147.8**

MAGLC (ug/m3): **11,667**

As long as the application of the "Air Toxics Policy" continues to show compliance with the applicable MAGLC, the permittee may implement any of the following changes with prior notification to and approval from the appropriate Ohio EPA District Office or local air agency:

- 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 unit or its exhaust parameters (e.g., increased emission rate, reduction of exhaust gas flow rate, and decreased stack height);
- c. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in the emission of any of the exempted organic compounds included in the definition of "VOC" [OAC rule 3745-21-01(B)(6)]; and

- d. any change in the composition of the coatings or cleanup materials, or use of new coatings or cleanup materials, that would result in an increase in emissions of any "Hazardous Air Pollutants" as defined in OAC rule 3745-77-01(V).

For any change to the emissions unit or its 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, the permittee shall obtain a permit to install prior to the change.

PROCESS DESCRIPTION

This PTI is for the installation of 7 marble melt T-glass manufacturing machines.

APPLICABLE REGULATIONS

OAC 3745-15 General Provisions

OAC 3745-31-01 (N) "Best available technology" means any combination of **work practices, raw material specifications, throughput limitations, source design characteristics, an evaluation of the annualized cost per ton of air pollutant removed, and air pollution control devices that have been previously demonstrated to the director of environmental protection to operate satisfactorily in this state or other states with similar air quality on substantially similar air pollution sources.**

OAC 3745-31-01(EEE) "Potential to emit" means the maximum capacity of an emissions unit or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the emissions unit or stationary source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable or legally and practicably enforceable by the state. Secondary emissions do not count in determining the potential to emit of a stationary source.

OAC 3745-31-05(A) The director shall issue a permit to install or plan approval, on the basis of the information appearing in the application, or information gathered by or furnished to the Ohio environmental protection agency, or both, if he determines that the installation or modification and operation of the air contaminant source, solid waste disposal facility, infectious waste treatment facility, water pollution source, disposal system, land application of sludge, or public water system will:

(3) Employ the best available technology, except when the only requirement to obtain a permit to install is due to a modification as described in paragraph (VV)(1)(b) of rule 3745-31-01 and paragraph (A)(2) of rule 3745-31-02 of the Administrative Code.

OAC 3745-21-07 THIS PROCESS USES EXEMPT MATERIALS

(G)(2) A person shall not discharge more than **forty pounds** of organic material into the atmosphere in any one day, **nor more than eight pounds in any one hour**, from any article, machine, equipment, or other contrivance used under conditions other than described in paragraph (G)(1) of this rule for employing, applying, evaporating or drying any **photochemically reactive material**, or substance containing such photochemically reactive material, unless said discharge has been reduced by at least eighty-five per cent.

(9) The provisions of paragraph (G) of this rule shall not apply to:

(c) The use of any material, in any article, machine, equipment, or other contrivance described in paragraph (G)(1), (G)(2), (G)(3), or (G)(4) of this rule, if:

- (i) The volatile content of such material consists only of water and liquid organic material, and
- (ii) The liquid organic material comprises not more than twenty per cent of said volatile content, and
- (iii) The volatile content is not a photochemically reactive material.

OAC 3745-17-11 (B) Emission limitations: (1) Except as specified in paragraphs (B)(4) to (B)(6) of this rule, any owner or operator of a source of particulate emissions which is located within the following counties shall operate said source so that the particulate emissions do not exceed the allowable emission rate specified by "curve P-1" of ["Figure II"](#) or by ["Table I"](#), whichever is applicable under paragraph (A)(2) of this rule: Adams, Allen, Ashtabula, Athens, Belmont, Brown, Butler, Clark, Clermont, Clinton, Columbiana, Coshocton, Cuyahoga, Darke, Defiance, Delaware, Fairfield, Franklin, Gallia, Geauga, Greene, Hamilton, Henry, Jackson, Jefferson, Lake, Lawrence, Licking, Lorain, Lucas, Madison, Mahoning, Medina, Meigs, Miami, Monroe, Montgomery, Morgan, Muskingum, Noble, Perry, Pickaway, Portage, Preble, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Summit, Trumbull, Union, Warren, Washington, Wyandot and Wood.

OAC 3745-17-01(B)(11) "Particulate emissions" means particulate matter measurable by the applicable test methods in "Appendix A" of 40 CFR, Part 60 "Standards of Performance for New Stationary Sources," as such appendix existed on July 1, 1996.

OAC 3745-17-07 (A) Visible particulate emission limitations for stack emissions: (1) General limitations:

(a) Except as otherwise specified in paragraphs (A)(1)(b), (A)(2) and (A)(3) of this rule, visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average.

(b) Except as otherwise specified in paragraphs (A)(2) and (A)(3) of this rule, visible particulate emissions from any stack may exceed twenty per cent opacity, as a six-minute average, for not more than six consecutive minutes in any sixty minutes, but shall not exceed sixty per cent opacity, as a six-minute average, at any time.

BAT Determination:

Use of an electric heating unit, venting exhaust to basement through filter material (this mist elimination system will help condense any VOCs and remove particulates). Enclosed glycol application. Exempt solvents.

CALCULATIONS:

PM - No PM emissions are expected other than mist from the VOCs so any PM should be eliminated by the mist eliminator in the stack. From material balance, emissions are estimated to be less than .044 pounds per hour, 1.06 pounds per day and 0.193 tons per year per machine assuming the mass balance is within 20% accurate, allowables shall be set at 0.06 pounds per hour and 0.26 tons per year. The chopping process is carried out in a slurry and if there are any emissions they would not be vented to a stack.

OC - from diethylene glycol(DEG) 88 pounds glass per bushing * 0.015 lbs DEG per lb or glass = 1.33 pounds DEG per hour per bushing applied

From testing similar sources 0.010 pounds DEG per pound of glass pulled is actually emitted or 0.876 pounds DEG per hour per machine and 7 machines at 0.876 pounds DEG/per machine per hour = 6.13 pounds DEG per hour and 26.8 tons DEG per year. Adding in a 15 percent error 1 pound per hour and 4.41 tons per year per machine of OC or 30.9 tons total from DEG. **However this material is exempt from 3745-21 rules.**

From Sizing(Mass balance) 3 gallons per hour per bushing with 0.072 pounds OC per gallon = 0.216 pounds OC per hour per machine (add 15% error factor 0.25 pounds per hour) multiply by 7 bushings equals 1.75 pounds per hour and at 8760 hours per year equals 7.7 tons OC emissions per year.

Total OC emissions 38.6 tons per year 3.21 tons per month (1.26 pounds per hour). Total OC emissions per unit are 5.51 tons per year and 919 pounds per month (1.26 pounds per hour).

Ohio Air Toxics Policy

Even though the organic compounds are exempt from the 3745-21, the air toxics policy is applicable

Modeled using SCREENS 3

Methanol - TLV 262,000 micrograms per cubic meter; MAGLC 6,238 (ug/m³); highest modeled concentration 14.7(ug/m³)

Isopropyl Alcohol - TLV 490,000 (ug/m³); MAGLC 11,667; highest modeled concentration 147.8 (ug/m³)

Modeling output below:

02/14/00

09:21:20

*** SCREEN3 MODEL RUN ***

*** VERSION DATED 96043 ***

PTI 04-1209 Air Toxics Modeling

Distance to plant property line from stack is 155 meters.

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 1.00000
STACK HEIGHT (M) = 10.6700
STK INSIDE DIAM (M) = .7010
STK EXIT VELOCITY (M/S)= 14.2200
STK GAS EXIT TEMP (K) = 293.0000
AMBIENT AIR TEMP (K) = 293.0000
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = 10.6700
MIN HORIZ BLDG DIM (M) = 14.0000
MAX HORIZ BLDG DIM (M) = 169.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.

THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = .000 M⁴/S³; MOM. FLUX = 24.841 M⁴/S².

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	U10M STAB	USTK (M/S)	MIX HT (M/S)	PLUME (M)	SIGMA HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
155.	680.3	6	3.5	3.6	10000.0	11.88	6.10	9.21	SS
200.	555.3	6	3.5	3.6	10000.0	11.88	7.73	9.79	SS
300.	414.0	6	3.0	3.1	10000.0	12.74	11.23	10.42	SS
400.	327.5	6	3.0	3.1	10000.0	12.74	14.64	11.27	SS
500.	271.2	6	2.5	2.6	10000.0	14.45	17.97	11.59	SS
600.	237.9	6	2.5	2.6	10000.0	14.45	21.24	12.61	SS
700.	210.0	6	2.5	2.6	10000.0	14.45	24.46	13.59	SS
800.	186.6	6	2.5	2.6	10000.0	14.45	27.63	14.25	SS
900.	167.2	6	2.5	2.6	10000.0	14.45	30.78	15.10	SS
1000.	150.8	6	2.5	2.6	10000.0	14.45	33.88	15.93	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 155. M:

155.	680.3	6	3.5	3.6	10000.0	11.88	6.10	9.21	SS
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DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** REGULATORY (Default) ***

PERFORMING CAVITY CALCULATIONS
 WITH ORIGINAL SCREEN CAVITY MODEL
 (BRODE, 1988)

*** CAVITY CALCULATION - 1 *** *** CAVITY CALCULATION - 2 ***

CONC (UG/M**3) = 91.08 CONC (UG/M**3) = 449.7

CRIT WS @10M (M/S) = 8.01 CRIT WS @10M (M/S) = 19.59
CRIT WS @ HS (M/S) = 8.12 CRIT WS @ HS (M/S) = 19.85
DILUTION WS (M/S) = 4.06 DILUTION WS (M/S) = 9.92
CAVITY HT (M) = 13.77 CAVITY HT (M) = 10.67
CAVITY LENGTH (M) = 76.78 CAVITY LENGTH (M) = 18.45
ALONGWIND DIM (M) = 14.00 ALONGWIND DIM (M) = 169.00

END OF CAVITY CALCULATIONS

*** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	680.3	155.	0.
BLDG. CAVITY-1	91.08	77.	-- (DIST = CAVITY LENGTH)
BLDG. CAVITY-2	449.7	18.	-- (DIST = CAVITY LENGTH)

For Methanol 0.0318 g/s (0.252 lb/hr) so $680.3 * .0318 = 21.624$ for 1Hr and for 8 hour $* 0.68 = 14.7$ micrograms per meter cubed

For Isopropanol 0.3194 g/s (2.535 lb/hr) so $680.3 * 0.3194 = 217.288$ for 1Hr and for 8 hour $* 0.68 = 147.8$ micrograms per meter cubed

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Johns Manville Plant 1
PTI Application: **04-01209**
Issued: 3/8/00

Facility ID: **0448000012**
Emissions Unit ID: **P052**