

Facility ID: 0125040904 Issuance type: Draft State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

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Facility ID: 0125040904 Emissions Unit ID: J001 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
phenolic resins loading station 3 (uncontrolled)	OAC rule 3745-35-07(B)(2)	Methanol emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.000 ton/yr. Formaldehyde emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.059 lb/hr and 0.021 ton/yr. Phenol emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.000 ton/yr.
	OAC rule 3745-21-07(E)(2)	See sections A.2.a and B.1 below. The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-35-07 (B)(2).

2. **Additional Terms and Conditions**
 - (a) The hourly and annual emission limitations were established to reflect the potentials to emit (PTEs) for this emissions unit. The PTEs are based upon a maximum annual production rate of 10,397,626 gallons (105,120,000 lbs) of phenol-formaldehyde resins.

B. Operational Restrictions

1. The permittee shall not load methanol containing resins through this loading station.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect and record the following information during each month:
 - a. the company identification and the gallons (or weight in pounds) of each resin loaded through this emissions unit; and
 - b. whether or not each resin contains quantifiable methanol.

D. Reporting Requirements

1. In accordance with the General Terms and Conditions, the permittee shall submit deviation reports that identify the days during methanol-containing resins were loaded through this emissions unit. Each report shall identify the cause for the loading of methanol-containing resins and the estimated total quantity of materials loaded during each such day, in pounds.

2. The permittee shall also submit annual reports that specify the total methanol, formaldehyde and phenol emissions from this loading stations 3 (J001) and 4 (J002) for the previous calendar year. These reports shall include the calculations of the emission and shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in section A.I of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:

Formaldehyde emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.059 lb/hr and 0.021 ton/yr.

Applicable Compliance Method:

Compliance with the hourly allowable formaldehyde emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per day of 14,813 gallons resin times the company derived emission factor of 0.004 lb formaldehyde/1,000 gallon resin equal 0.059 lbs/hr.

Compliance with the annual allowable formaldehyde emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per year of 10,397,626 gallons resin times the company derived emission factor of 0.004 lb formaldehyde/1,000 gallon resin and divided by 2,000 lbs/ton to equal 0.020 ton/yr.

The emission factor of 0.004 lb formaldehyde/1,000 gallon resin was derived using equations in AP-42 section 4.4 based on a vapor pressure of 0.0117 psi at an average storage temperature of 80 degrees Fahrenheit.

Emission Limitation:

Methanol emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.000 ton/yr.

Applicable Compliance Method:

Compliance with the hourly allowable methanol emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per day of 14,813 gallons resin times the company derived emission factor of 0.0000 lb methanol/1,000 gallon resin to equal 0.000 lbs/hr.

Compliance with the annual allowable methanol emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per year of 10,397,626 gallons resin times the company derived emission factor of 0.000 lb methanol/1,000 gallon resin and divided by 2,000 lbs/ton to equal 0.000 ton/yr.

The emission factor of 0.000 lb methanol/1,000 gallon resin was derived using equations in AP-42 section 4.4 based on a vapor pressure of 0.0000 psi at an average storage temperature of 80 degrees Fahrenheit.

Emission Limitation:

Phenol emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.000 ton/yr.

Applicable Compliance Method:

Compliance with the hourly allowable phenol emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per day of 14,813 gallons resin times the company derived emission factor of 0.0001 lb phenol/1,000 gallon resin to equal 0.000 lbs/hr.

Compliance with the annual allowable phenol emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per year of 10,397,626 gallons resin times the company derived emission factor of 0.0001 lb phenol/1,000 gallon resin and divided by 2,000 lbs/ton to equal 0.000 ton/yr.

The emission factor of 0.0001 lb phenol/1,000 gallon resin was derived using equations in AP-42 section 4.4 based on vapor pressure of 0.0001 psi at average storage temperature of 80 degrees Fahrenheit and multiplied by the maximum throughput and divided by 2,000 lbs/ton.

F. Miscellaneous Requirements

1. In accordance with the provisions of OAC rule 3745-35-07, the following special terms and conditions of this permit to operate are federally enforceable: A-F.

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Facility ID: 0125040904 Emissions Unit ID: J002 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or

control measures (if any) may 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>
phenolic resins loading station 4 (uncontrolled)	OAC rule 3745-35-07(B)(2)	Methanol emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.000 ton/yr. Formaldehyde emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.059 lb/hr and 0.021 ton/yr. Phenol emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.000 ton/yr.
	OAC rule 3745-21-07(E)(2)	See sections A.2.a and B.1 below. The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-35-07 (B)(2).

2. Additional Terms and Conditions

- (a) The hourly and annual emission limitations were established to reflect the potentials to emit (PTEs) for this emissions unit. The PTEs are based upon a maximum annual production rate of 10,397,626 gallons (105,120,000 lbs) phenol-formaldehyde resins.

B. Operational Restrictions

- 1. The permittee shall not load methanol containing resins through this loading station.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall collect and record the following information during each month:
 - a. the company identification and the gallons (or weight in pounds) of each resin loaded through this emissions unit; and
 - b. whether or not each resin contains quantifiable methanol.

D. Reporting Requirements

- 1. In accordance with the General Terms and Conditions, the permittee shall submit deviation reports which identify the days during methanol containing resins were loaded through this emissions unit. Each report shall identify the cause for the loading the methanol containing resins and the estimated total quantity of materials loaded during each such day, in pounds.
- 2. The permittee shall also submit annual reports that specify the total methanol, formaldehyde and phenol emissions from this loading stations 3 (J001) and 4 (J002) for the previous calendar year. These reports shall include the calculations of the emission and shall be submitted by January 31 of each year.

E. Testing Requirements

- 1. Compliance with the emission limitations in section A.I of these terms and conditions shall be determined in accordance with the following methods:
 Emission Limitation:
 Formaldehyde emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.059 lb/hr and 0.021 ton/yr.

 Applicable Compliance Method:
 Compliance with the hourly allowable formaldehyde emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per day of 14,813 gallons resin times the company derived emission factor of 0.004 lb formaldehyde/1,000 gallon resin equal 0.059 lbs/hr.

 Compliance with the annual allowable formaldehyde emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per year of 10,397,626 gallons resin times the company derived emission factor of 0.004 lb formaldehyde/1,000 gallon resin and divided by 2,000 lbs/ton to equal 0.020 ton/yr.

 The emission factor of 0.004 lb formaldehyde/1,000 gallon resin was derived using equations in AP-42 section 4.4 based on a vapor pressure of 0.0117 psi at an average storage temperature of 80 degrees Fahrenheit.
 Emission Limitation:
 Methanol emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.000 ton/yr.

 Applicable Compliance Method:
 Compliance with the hourly allowable methanol emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per day of 14,813 gallons resin times the company derived emission factor of 0.0000 lb methanol/1,000 gallon resin to equal 0.000 lbs/hr.

 Compliance with the annual allowable methanol emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per year of 10,397,626 gallons resin times the company derived emission factor of 0.000 lb methanol/1,000 gallon resin and divided by 2,000 lbs/ton to equal 0.000 ton/yr.

 The emission factor of 0.000 lb methanol/1,000 gallon resin was derived using equations in AP-42 section 4.4 based on a vapor pressure of 0.0000 psi at an average storage temperature of 80 degrees Fahrenheit.
 Emission Limitation:
 Phenol emissions from loading stations 3 (J001) and 4 (J002) shall not exceed 0.000 ton/yr.

 Applicable Compliance Method:
 Compliance with the hourly allowable phenol emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per day of 14,813 gallons resin times the company derived emission factor of 0.0001 lb

phenol/1,000 gallon resin to equal 0.000 lbs/hr.

Compliance with the annual allowable phenol emission rate may be demonstrated by multiplying the maximum quantity of resin loaded per year of 10,397,626 gallons resin times the company derived emission factor of 0.0001 lb phenol/1,000 gallon resin and divided by 2,000 lbs/ton to equal 0.000 ton/yr.

The emission factor of 0.00011 lb phenol/1,000 gallon resin was derived using equations in AP-42 section 4.4 based on vapor pressure of 0.0001 psi at average storage temperature of 80 degrees Fahrenheit and multiplied by the maximum throughput and divided by 2,000 lbs/ton.

F. Miscellaneous Requirements

1. In accordance with the provisions of OAC rule 3745-35-07, the following special terms and conditions of this permit to operate are federally enforceable: A-F.

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Facility ID: 0125040904 Emissions Unit ID: J003 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
resin loading station 5, with all emissions vented to the resin plant thermal oxidizer	OAC rule 3745-35-07(B)(2)	Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr. Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.042 lb/hr and 0.182 ton/yr. Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.001 lb/hr and 0.0048 ton/yr. There shall be no fugitive VOC emissions from this emissions unit. See sections A.2.a-c below.
	OAC rule 3745-21-07(E)(2)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-35-07 (B)(2).

2. Additional Terms and Conditions

- (a) The loading rack shall be equipped with a vapor collection system whereby during the transfer of resin product to any delivery vessel, all vapors displaced from the delivery vessel during loading are vented only to the vapor collection system. The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.
All of the OC emissions from the following emissions units shall be vented to the resin plant thermal oxidizer: methanol storage tank T065, resin kettle K-1 P004; resin kettle K-3 P006; 29 resin storage tanks T001, T003, T013-T022, T024, T025, T027, T028, T030 -T036, T059 - T061, Z011, Z012, Z051 and Z052; 19 formaldehyde and urea-formaldehyde solution storage tanks T039 - T049, T051 - T056, T066 and T067 and 2 load stations J003 and J004.

The hourly and annual emission limitations were established to reflect the potentials to emit (PTEs) of the combined emissions units venting to the resin plant thermal oxidizer. The PTEs are based upon a maximum annual production rate of 105,014,880 lbs of urea-formaldehyde solution, 141,281,280 lbs of

formaldehyde solution, and 210,240,000 lbs of phenol-formaldehyde resins from both resin kettles, and the 98% control efficiency requirement for the emissions from the resin plant thermal oxidizer.

All resin product loading lines and vapor lines shall be equipped with fittings that are vapor tight.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated that this emissions unit was in compliance.
2. A means shall be provided to prevent drainage of resin product from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.
3. The permittee shall not permit resin to be spilled or handled in any other manner that would result in evaporation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated compliance; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

2. The permittee shall maintain monthly records of the weight of each type of resin loaded each month, in pounds.

D. Reporting Requirements

1. In accordance with paragraph A.1 of the General Terms and Conditions, the permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in section B.1, above, and the number of hours of downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall also submit annual reports that specify the total methanol, formaldehyde and phenol emissions from resin plant thermal oxidizer for the previous calendar year. These reports shall include the calculations of the emissions and shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in section A.I of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitations:

The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months after the effective date of this permit and annually thereafter.

ii. The emission testing shall be conducted to demonstrate compliance with the hourly allowables for methanol, formaldehyde and dimethyl ether as well as the control efficiency across the thermal oxidizer. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC 3745-21-10(C)(2)(b). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iii. The following test method shall be employed to demonstrate compliance: Methods 1-4 and 320 of 40 CFR Part 60, Appendix A for formaldehyde, methanol and phenol concentrations at the inlet and outlet to determine VOC control efficiency. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.

Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time and date of the test, and the person who will be conducting the test. Failure to submit such notification for review and approval prior to the test may result in the Ohio EPA, CDO refusal to accept the results of the emission test.

Personnel from the Ohio EPA, CDO shall be permitted to witness the test, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the test. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, CDO.

Emission Limitation:

Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Formaldehyde emissions from the resin plant thermal oxidizer shall not exceed 0.042 lb/hr and 0.182 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Phenol emissions from the resin plant thermal oxidizer shall not exceed 0.001 lb/hr and 0.0048 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

F. Miscellaneous Requirements

1. In accordance with the provisions of OAC rule 3745-35-07, the following special terms and conditions of this permit to operate are federally enforceable: A-F.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0125040904 Emissions Unit ID: J004 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
loading station 1 for urea-formaldehyde and formaldehyde solution to tanker with all emissions vented to the resin plant thermal oxidizer	OAC rule 3745-35-07(B)(2)	Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr. Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.042 lb/hr and 0.182 ton/yr. Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.001 lb/hr and 0.0048 ton/yr. There shall be no fugitive VOC emissions from this emissions unit.

OAC rule 3745-21-07(E)(2)

See sections A.2.a-c below.

The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-35-07 (B)(2).

2. Additional Terms and Conditions

- (a) The loading rack shall be equipped with a vapor collection system whereby during the transfer of formaldehyde product to any delivery vessel, all vapors displaced from the delivery vessel during loading are vented only to the vapor collection system. The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.

All of the OC emissions from the following emissions units shall be vented to the resin plant thermal oxidizer: methanol storage tank T065, resin kettle K-1 P004; resin kettle K-3 P006; 29 resin storage tanks T001, T003, T013-T022, T024, T025, T027, T028, T030 -T036, T059 - T061, Z011, Z012, Z051 and Z052; 19 formaldehyde and urea-formaldehyde solution storage tanks T039 - T049, T051 - T056, T066 and T067 and 2 load stations J003 and J004.

The hourly and annual emission limitations were established to reflect the potentials to emit (PTEs) of the combined emissions units venting to the resin plant thermal oxidizer. The PTEs are based upon a maximum annual production rate of 105,014,880 lbs of urea-formaldehyde solution, 141,281,280 lbs of formaldehyde solution, and 210,240,000 lbs of phenol-formaldehyde resins from both resin kettles, and the 98% control efficiency requirement for the emissions from the resin plant thermal oxidizer.

All formaldehyde solution loading lines and vapor lines shall be equipped with fittings which are vapor tight.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated that this emissions unit was in compliance.
2. A means shall be provided to prevent drainage of formaldehyde product from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.
3. The permittee shall not permit formaldehyde to be spilled or handled in any other manner that would result in evaporation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated compliance; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

2. The permittee shall maintain a monthly record of the identification and summation of the weight of urea-formaldehyde and formaldehyde loaded per month, in pounds.

D. Reporting Requirements

1. In accordance with paragraph A.1 of the General Terms and Conditions, the permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified in section B.1, above, and the number of hours of downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall also submit annual reports that specify the total methanol, formaldehyde and phenol emissions from resin plant thermal oxidizer for the previous calendar year. These reports shall include the calculations of the emissions and shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission section A.I. of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitations:

The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The emission testing shall be conducted within 6 months after the effective date of this permit and annually thereafter.

ii. The emission testing shall be conducted to demonstrate compliance with the hourly allowables for methanol, formaldehyde and dimethyl ether as well as the control efficiency across the thermal oxidizer. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC 3745-21-10(C)(2)(b). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iii. The following test method shall be employed to demonstrate compliance: Methods 1-4 and 320 of 40 CFR Part 60, Appendix A for formaldehyde, methanol and phenol concentrations at the inlet and outlet to determine VOC control efficiency. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO. Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time and date of the test, and the person who will be conducting the test. Failure to submit such notification for review and approval prior to the test may result in the Ohio EPA, CDO refusal to accept the results of the emission test.

Personnel from the Ohio EPA, CDO shall be permitted to witness the test, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the test. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, CDO.

Emission Limitation:

Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Formaldehyde emissions from the resin plant thermal oxidizer shall not exceed 0.042 lb/hr and 0.182 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Phenol emissions from the resin plant thermal oxidizer shall not exceed 0.001 lb/hr and 0.0048 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

F. Miscellaneous Requirements

1. In accordance with the provisions of OAC rule 3745-35-07, the following special terms and conditions of this permit to operate are federally enforceable: A-F.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0125040904 Emissions Unit ID: T015 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
phenolic resins storage tank (25,000 gallons) with all emissions vented to the resin plant thermal oxidizer	OAC rule 3745-35-07(B)(2)	Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr. Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.042 lb/hr and 0.182 ton/yr. Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.001 lb/hr and 0.0048 ton/yr. There shall be no fugitive VOC emissions from this emissions unit. See sections A.2.a-c below.
	OAC rule 3745-21-07(D)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-35-07 (B)(2).

2. Additional Terms and Conditions

- (a) The tank emissions shall be vented to a vapor collection system that achieves and maintains a 100% capture efficiency at all times that organic liquids are transferred and stored. The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.
All of the OC emissions from the following emissions units shall be vented to the resin plant thermal oxidizer: methanol storage tank T065, resin kettle K-1 P004; resin kettle K-3 P006; 29 resin storage tanks T001, T003, T013-T022, T024, T025, T027, T028, T030 -T036, T059 - T061, Z011, Z012, Z051 and Z052; 19 formaldehyde and urea-formaldehyde solution storage tanks T039 - T049, T051 - T056, T066 and T067 and 2 load stations J003 and J004.

The hourly and annual emission limitations were established to reflect the potentials to emit (PTEs) of the combined emissions units venting to the resin plant thermal oxidizer. The PTEs are based upon a maximum annual production rate of 105,014,880 lbs of urea-formaldehyde solution, 141,281,280 lbs of formaldehyde solution, and 210,240,000 lbs of phenol-formaldehyde resins from both resin kettles, and the 98% control efficiency requirement for the emissions from the resin plant thermal oxidizer.
The following resin storage tanks are identical to T015 and have been placed on permit to operate registration status: T001, T003, T011, T012, T014-T022, T024,T025, T027, T028, T030-T036, T051 and T052 Although these storage tanks have been placed on registration status, they are subject to the control requirements specified in A.1, A.2.a and A.2.b:

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated that this emissions unit was in compliance.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated compliance; and
- b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

D. Reporting Requirements

1. In accordance with the General Terms and Conditions, the permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in section B.1, above; and the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall also submit annual reports that specify the total methanol, formaldehyde and phenol emissions from resin plant thermal oxidizer for the previous calendar year. These reports shall include the calculations of the emissions and shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in section A.I. of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitations:

The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months after the effective date of this permit and annually thereafter.

ii. The emission testing shall be conducted to demonstrate compliance with the hourly allowables for methanol, formaldehyde and dimethyl ether as well as the control efficiency across the thermal oxidizer. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC 3745-21-10(C)(2)(b). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iii. The following test method shall be employed to demonstrate compliance: Methods 1-4 and 320 of 40 CFR Part 60, Appendix A for formaldehyde, methanol and phenol concentrations at the inlet and outlet to determine VOC control efficiency. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.

Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time and date of the test, and the person who will be conducting the test. Failure to submit such notification for review and approval prior to the test may result in the Ohio EPA, CDO refusal to accept the results of the emission test.

Personnel from the Ohio EPA, CDO shall be permitted to witness the test, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the test. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, CDO.

Emission Limitation:

Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Formaldehyde emissions from the resin plant thermal oxidizer shall not exceed 0.042 lb/hr and 0.182 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Phenol emissions from the resin plant thermal oxidizer shall not exceed 0.001 lb/hr and 0.0048 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

F. Miscellaneous Requirements

1. In accordance with the provisions of OAC rule 3745-35-07, the following special terms and conditions of this permit to operate are federally enforceable: A-F.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0125040904 Emissions Unit ID: T039 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
formaldehyde solution storage tank (25,000 gallons) with all emissions vented to the resin plant thermal oxidizer	OAC rule 3745-35-07(B)(2)	Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr. Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.042 lb/hr and 0.182 ton/yr. Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.001 lb/hr and 0.0048 ton/yr. There shall be no fugitive VOC emissions from this emissions unit. See sections A.2.a-c below.
	OAC rule 3745-21-07(D)	The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-35-07 (B)(2).

2. Additional Terms and Conditions

- (a) The tank emissions shall be vented to a vapor collection system that achieves and maintains a 100% capture efficiency at all times that organic liquids are transferred and stored. The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.
All of the OC emissions from the following emissions units shall be vented to the resin plant thermal oxidizer: methanol storage tank T065, resin kettle K-1 P004; resin kettle K-3 P006; 29 resin storage tanks T001, T003, T013-T022, T024, T025, T027, T028, T030 -T036, T059 - T061, Z011, Z012, Z051 and Z052; 19 formaldehyde and urea-formaldehyde solution storage tanks T039 - T049, T051 - T056, T066 and T067 and 2 load stations J003 and J004.

The hourly and annual emission limitations were established to reflect the potentials to emit (PTEs) of the combined emissions units venting to the resin plant thermal oxidizer. The PTEs are based upon a maximum annual production rate of 105,014,880 lbs of urea-formaldehyde solution, 141,281,280 lbs of formaldehyde solution, and 210,240,000 lbs of phenol-formaldehyde resins from both resin kettles, and the 98% control efficiency requirement for the emissions from the resin plant thermal oxidizer. The following formaldehyde storage tanks are identical to T039 and have been placed on permit to operate registration status:T040-41 and T051-56. Although these storage tanks have been placed on registration status, they are subject to the control requirements specified in A.1, A.2.a and A.2.b: .

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated that this emissions unit was in compliance.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated compliance; and

- b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall collect and record the following information for each day:
- a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than 50 degrees Fahrenheit less than the average combustion temperature during the most recent stack test that demonstrated compliance; and
- b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
- D. Reporting Requirements**
1. In accordance with the General Terms and Conditions, the permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in section B.1, above; and the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall also submit annual reports that specify the total methanol, formaldehyde and phenol emissions from resin plant thermal oxidizer for the previous calendar year. These reports shall include the calculations of the emissions and shall be submitted by January 31 of each year.
- E. Testing Requirements**
1. Compliance with the emission limitations in section A.I. of these terms and conditions shall be determined in accordance with the following methods:
- Emission Limitations:**
The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.
- Applicable Compliance Method:**
The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- i. The emission testing shall be conducted within 6 months after the effective date of this permit and annually thereafter.
- ii. The emission testing shall be conducted to demonstrate compliance with the hourly allowables for methanol, formaldehyde and dimethyl ether as well as the control efficiency across the thermal oxidizer. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC 3745-21-10(C)(2)(b). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.
- iii. The following test method shall be employed to demonstrate compliance: Methods 1-4 and 320 of 40 CFR Part 60, Appendix A for formaldehyde, methanol and phenol concentrations at the inlet and outlet to determine VOC control efficiency. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.
- iv. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.
Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time and date of the test, and the person who will be conducting the test. Failure to submit such notification for review and approval prior to the test may result in the Ohio EPA, CDO refusal to accept the results of the emission test.
- Personnel from the Ohio EPA, CDO shall be permitted to witness the test, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- A comprehensive written report on the results of the emissions test shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the test. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, CDO.
- Emission Limitation:**
Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr.
- Applicable Compliance Method:**
The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.
- The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.
- Emission Limitation:**
Formaldehyde emissions from the resin plant thermal oxidizer shall not exceed 0.042 lb/hr and 0.182 ton/yr.
- Applicable Compliance Method:**
The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.
- The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall

be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Phenol emissions from the resin plant thermal oxidizer shall not exceed 0.001 lb/hr and 0.0048 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

F. Miscellaneous Requirements

1. In accordance with the provisions of OAC rule 3745-35-07, the following special terms and conditions of this permit to operate are federally enforceable: A-F.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0125040904 Emissions Unit ID: T042 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
urea-formaldehyde solution storage tank (25,000 gallons) with all emissions vented to the resin plant thermal oxidizer	OAC rule 3745-35-07(B)(2)	Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr. Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.042 lb/hr and 0.182 ton/yr. Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.001 lb/hr and 0.0048 ton/yr. There shall be no fugitive VOC emissions from this emissions unit. See sections A.2.a-c below. The requirements of this rule are less stringent than the requirements established pursuant to OAC rule 3745-35-07 (B)(2).
	OAC rule 3745-21-07(D)	

2. Additional Terms and Conditions

- (a) The tank emissions shall be vented to a vapor collection system that achieves and maintains a 100% capture efficiency at all times that organic liquids are transferred and stored. The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.
All of the OC emissions from the following emissions units shall be vented to the resin plant thermal oxidizer: methanol storage tank T065, resin kettle K-1 P004; resin kettle K-3 P006; 29 resin storage tanks T001, T003, T013-T022, T024, T025, T027, T028, T030 -T036, T059 - T061, Z011, Z012, Z051 and Z052; 19 formaldehyde and urea-formaldehyde solution storage tanks T039 - T049, T051 - T056, T066 and T067 and 2 load stations J003 and J004.

The hourly and annual emission limitations were established to reflect the potentials to emit (PTEs) of the combined emissions units venting to the resin plant thermal oxidizer. The PTEs are based upon a maximum annual production rate of 105,014,880 lbs of urea-formaldehyde solution, 141,281,280 lbs of

formaldehyde solution, and 210,240,000 lbs of phenol-formaldehyde resins from both resin kettles, and the 98% control efficiency requirement for the emissions from the resin plant thermal oxidizer.

The following urea-formaldehyde storage tanks are identical to T042 and have been placed on permit to operate registration status: T041-T049. Although these storage tanks have been placed on registration status, they are subject to the control requirements specified in A.1, A.2.a and A.2.b: .

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated that this emissions unit was in compliance.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated compliance; and

b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

D. Reporting Requirements

1. In accordance with paragraph A.1 of the General Terms and Conditions, the permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified in section B.1, above, and the number of hours of downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall also submit annual reports that specify the total methanol, formaldehyde and phenol emissions from resin plant thermal oxidizer for the previous calendar year. These reports shall include the calculations of the emissions and shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitations in section A.I. of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitations:

The vapor collection system shall vent to the resin plant thermal oxidizer; and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months after the effective date of this permit and annually thereafter.

ii. The emission testing shall be conducted to demonstrate compliance with the hourly allowables for methanol, formaldehyde and dimethyl ether as well as the control efficiency across the thermal oxidizer. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC 3745-21-10(C)(2)(b). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iii. The following test method shall be employed to demonstrate compliance: Methods 1-4 and 320 of 40 CFR Part 60, Appendix A for formaldehyde, methanol and phenol concentrations at the inlet and outlet to determine VOC control efficiency. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.

Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time and date of the test, and the person who will be conducting the test. Failure to submit such notification for review and approval prior to the test may result in the Ohio EPA, CDO refusal to accept the results of the emission test.

Personnel from the Ohio EPA, CDO shall be permitted to witness the test, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the test. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, CDO.

Emission Limitation:

Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Formaldehyde emissions from the resin plant thermal oxidizer shall not exceed 0.042 lb/hr and 0.182 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Phenol emissions from the resin plant thermal oxidizer shall not exceed 0.001 lb/hr and 0.0048 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

F. Miscellaneous Requirements

1. In accordance with the provisions of OAC rule 3745-35-07, the following special terms and conditions of this permit to operate are federally enforceable: A-F.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0125040904 Emissions Unit ID: T065 Issuance type: Draft State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(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 employed. Additional applicable emissions limitations and/or control measures (if any) may 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>
methanol storage tank (412,845 gallon) with all emissions vented to the resin plant thermal oxidizer	OAC rule 3745-35-07(B)	Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr.
		Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.042 lb/hr and 0.182 ton/yr.
		Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.001 lb/hr and 0.0048 ton/yr.
		There shall be no fugitive VOC emissions from this emissions unit.
		See sections A.2.a-c below.
	OAC rule 3745-21-07(D)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-35-07 (B)(2).

40 CFR part 60 Subpart Kb

See A.2.d below.

2. Additional Terms and Conditions

- (a) The tank emissions shall be vented to a vapor collection system that achieves and maintains a 100% capture efficiency at all times that organic liquids are transferred and stored. The vapor collection system shall vent to the resin plant thermal oxidizer; and thermal oxidizer shall achieve and maintain a minimum of either 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume.

All of the OC emissions from the following emissions units shall be vented to the resin plant thermal oxidizer: methanol storage tank T065, resin kettle K-1 P004; resin kettle K-3 P006; 29 resin storage tanks T001, T003, T013-T022, T024, T025, T027, T028, T030 -T036, T059 - T061, Z011, Z012, Z051 and Z052; 19 formaldehyde and urea-formaldehyde solution storage tanks T039 - T049, T051 - T056, T066 and T067 and 2 load stations J003 and J004.

The hourly and annual emission limitations were established to reflect the potentials to emit (PTEs) of the combined emissions units venting to the resin plant thermal oxidizer. The PTEs are based upon a maximum annual production rate of 105,014,880 lbs of urea-formaldehyde solution, 141,281,280 lbs of formaldehyde solution, and 210,240,000 lbs of phenol-formaldehyde resins from both resin kettles, and the 98% control efficiency requirement for the emissions from the resin plant thermal oxidizer.

All methanol feed lines and vapor lines shall be equipped with fittings which are vapor tight.

Construction of this storage tank commenced prior to July 23, 1984, so the provisions in 40 CFR part 60 Subpart Kb are not applicable.

B. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when this emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated that this emissions unit was in compliance.
2. The permittee shall not permit methanol to be spilled or handled in any other manner that would result in evaporation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average combustion temperature during the most recent stack test that demonstrated compliance; and
- b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

D. Reporting Requirements

1. In accordance with the General Terms and Conditions, the permittee shall submit deviation (excursion) reports that identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in section B.1, above; and the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall also submit annual reports that specify the total methanol, formaldehyde and phenol emissions from resin plant thermal oxidizer for the previous calendar year. These reports shall include the calculations of the emissions and shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emission limitation in section A.I. of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:

The permittee shall operate a thermal incinerator to control emissions from methanol storage tank to reduce the VOC emissions to either achieve a destruction efficiency of at least 98%, by weight, or an outlet emission concentration of less than 20 parts per million (ppm), by volume.

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. the emission testing shall be conducted annually.
- ii. the emission testing shall be conducted to demonstrate compliance with the VOC control efficiency, by weight, or an outlet concentration of less than 20 ppm, by volume. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC 3745-21-10(C)(2)(b). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases;
- iii. the following test methods shall be employed to demonstrate compliance with the VOC control efficiency or less than 20 ppm concentration: Methods 1-4 and 320 of 40 CFR Part 60, Appendix A for VOC control efficiency or outlet concentrations of formaldehyde, methanol, and phenol. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA;

- iv. the test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, CDO.
Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time and date of the test, and the person who will be conducting the test. Failure to submit such notification for review and approval prior to the test may result in the Ohio EPA, CDO refusal to accept the results of the emission test.

Personnel from the Ohio EPA, CDO shall be permitted to witness the test, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, CDO within 30 days following completion of the test. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, CDO.

Emission Limitation:

Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.186 lb/hr and 0.813 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Formaldehyde emissions from the resin plant thermal oxidizer shall not exceed 0.042 lb/hr and 0.182 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

Emission Limitation:

Phenol emissions from the resin plant thermal oxidizer shall not exceed 0.001 lb/hr and 0.0048 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through the emission testing required in section E.1.a.

The annual emission limitation is based on the potential to emit and compliance with the annual limitation shall be ensured if the permittee demonstrates compliance with the hourly emission limitation.

F. Miscellaneous Requirements

1. In accordance with the provisions of OAC rule 3745-35-07, the following special terms and conditions of this permit to operate are federally enforceable: A-F.