



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

9/16/2013

Dave Schriever
Givaudan Flavors Corporation
110 E. 70th St.
Cincinnati, OH 45216

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1431070914
Permit Number: P0114727
Permit Type: Renewal
County: Hamilton

Certified Mail

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging 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 Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Southwest Ohio Air Quality Agency at (513)946-7777 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: SWOAQA



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Givaudan Flavors Corporation**

Facility ID:	1431070914
Permit Number:	P0114727
Permit Type:	Renewal
Issued:	9/16/2013
Effective:	9/16/2013
Expiration:	8/10/2015



Division of Air Pollution Control
Permit-to-Install and Operate
for
Givaudan Flavors Corporation

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Authorization

Facility ID: 1431070914
Application Number(s): A0046943
Permit Number: P0114727
Permit Description: PTIO renewal for three spray dryers (P001, P004 and P005), one fluid bed dryer (P026) and two batch systems (P027 and P028).
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 9/16/2013
Effective Date: 9/16/2013
Expiration Date: 8/10/2015
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Givaudan Flavors Corporation
110 E. 70th St.
Cincinnati, OH 45216

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Southwest Ohio Air Quality Agency
250 William Howard Taft Rd.
Cincinnati, OH 45219
(513)946-7777

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section 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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Authorization (continued)

Permit Number: P0114727

Permit Description: PTIO renewal for three spray dryers (P001, P004 and P005), one fluid bed dryer (P026) and two batch systems (P027 and P028).

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	P001
Company Equipment ID:	Dry-002
Superseded Permit Number:	P0098257
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P004
Company Equipment ID:	Dry-006
Superseded Permit Number:	P0098257
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P005
Company Equipment ID:	Dry-007
Superseded Permit Number:	P0098249
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P026
Company Equipment ID:	Dry-013
Superseded Permit Number:	P0098250
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P027
Company Equipment ID:	Batch 2
Superseded Permit Number:	P0098257
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P028
Company Equipment ID:	Batch 6
Superseded Permit Number:	P0098257
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Givaudan Flavors Corporation
Permit Number: P0114727
Facility ID: 1431070914
Effective Date: 9/16/2013

A. Standard Terms and Conditions



1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Southwest Ohio Air Quality Agency in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

¹Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).



13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



Final Permit-to-Install and Operate
Givaudan Flavors Corporation
Permit Number: P0114727
Facility ID: 1431070914
Effective Date: 9/16/2013

B. Facility-Wide Terms and Conditions



Final Permit-to-Install and Operate

Givaudan Flavors Corporation

Permit Number: P0114727

Facility ID: 1431070914

Effective Date: 9/16/2013

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



Final Permit-to-Install and Operate
Givaudan Flavors Corporation
Permit Number: P0114727
Facility ID: 1431070914
Effective Date: 9/16/2013

C. Emissions Unit Terms and Conditions



1. P001, Dry-002

Operations, Property and/or Equipment Description:

Spray Dryer No. 2

a) 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. g)(1).

(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.

b) **Applicable Emissions Limitations and/or Control Requirements**

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(F)	Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 0.19 pound per hour and 0.84 ton per year. Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.12 pound per hour and 0.53 ton per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).

(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations outlined in b)(1) are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limits.
- b. Compliance with OAC rule 3745-31-05(F) shall be demonstrated by the use of a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions and a thermal oxidizer capable of (1) reducing VOC emissions by at least 97% or (2) achieving an outlet concentration not to exceed 11 ppmvVOC.

c) Operational Restrictions

- (1) The average combustion temperature within the regenerative thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1590 degrees Fahrenheit.
- (2) The scrubber water flow rate for the cyclonic scrubber shall be continuously maintained at a value of not less than 15 gallons per minute at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the average combustion temperature within the thermal oxidizer when the emissions unit is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within +/- 1 percent of the temperature being measured or +/- 5 degrees Fahrenheit, whichever is greater. The permittee shall record the average combustion temperature for each three-hour time block when the emissions unit is in operation on a daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the average combustion temperature falls below the value specified below for any continuous three-hour block of time when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.



In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the thermal oxidizer temperature immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not fall below 1590 degrees Fahrenheit.

This value is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the average combustion temperature based upon information obtained during future VOC emission tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the average combustion temperature will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (2) The permittee shall properly operate and maintain equipment to continuously monitor the cyclonic scrubber water flow rates during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the water flow rate on daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the water flow rate falls below the value specified below when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period



of time (in minutes) during which there was a deviation, the water flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The minimum scrubber water flow rate for the cyclonic scrubber shall be maintained at or above 15.0 gallons per minute at all times when the emissions unit is in operation.

These values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to these values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the value will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the cyclonic scrubber and the regenerative thermal oxidizer during the 12-month reporting period for this emissions unit:
 - a. each period of time when the scrubber water flow rate was outside of the acceptable range;
 - i. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - ii. an identification of any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;
 - iii. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the scrubber water flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and



- iv. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.
- b. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was less than 1590 degrees Fahrenheit;
 - i. an identification of each incident of deviation described in (b) where prompt investigation was not conducted;
 - ii. an identification of any period of time (start time and date and end time and date) when the emission unit was in operation and the process emissions were not vented to the thermal oxidizer.
 - iii. an identification of incident of deviation described in (b) where prompt corrective action, that would bring the average combustion temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - iv. an identification of incident of deviation described in (b) where proper records were not maintained for the investigation and/or corrective action.

f) **Testing Requirements**

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) and c) of these terms and conditions shall be determined in accordance with the following methods:

- a. **Emission Limitation:**

Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 0.19 pound per hour and 0.84 tons per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by (1) multiplying the emission rate (6.14 lbs/hr) by the control efficiency of the thermal oxidizer (1-0.97) or (2) multiplying the dryer controlled ppm (7.43 ppm) by the dryer flow (3,056 ACFM) then by the conversion factor (7.92×10^{-6} lb/ACFM determined at 215 degrees Fahrenheit and 3.8% moisture). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions rates were provided in PTIO application P0114727 submitted May 23, 2013.

- b. **Emission Limitation:**

Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.12 pound per hour and 0.53 ton per year.



Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the production rate (200 lb/hr) by the loss factor (0.02) then by the control efficiency of the scrubber and panel filter (1-0.97). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions factors were provided in PTIO application P0114727 submitted May 23, 2013.

c. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

d. Emission Limitation:

Use of a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions and a thermal oxidizer capable of (1) reducing VOC emissions by at least 97% or (2) achieving an outlet concentration not to exceed 11 ppmvVOC.

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 5 years of the last emissions test that demonstrated compliance. The last test which demonstrated compliance for this emissions unit was conducted on 10/9/12. Five years from this date is 10/9/17.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

Particulates	Method 5	40 <u>CFR</u> Part 60, Appendix A
VOC	Method 18 or 25A	40 <u>CFR</u> Part 60, Appendix A

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 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test



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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.

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

- iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test.
- vi. Personnel from the appropriate Ohio EPA District Office or local air agency 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.
- vii. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

e. Control Requirement:

The average combustion temperature within the regenerative thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1590 degrees Fahrenheit.



Applicable Compliance Method:

Compliance with the temperature restriction found in c)(1) shall be demonstrated by the record keeping requirements in d)(1).

f. Control Requirement:

The scrubber water flow rate for the cyclonic scrubber shall be continuously maintained at a value of not less than 15 gallons per minute at all times while the emissions unit is in operation.

Applicable Compliance Method:

Compliance with the scrubber water flow rate restriction found in c)(2) shall be demonstrated by the record keeping requirements in d)(2).

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that a new permit to install application would be required for an emissions unit if changes in the composition of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.
- (2) Since emissions units P001, P004, P021, P022 and P026 are vented to a common control system and have a combined stack, the allowable emissions rates during performance tests shall be determined by adding together the hourly emissions rates for the above mentioned emissions units, which shall be operated simultaneously during the test. The combined stack emission concentrations shall not exceed 11 ppm corrected to 215 degrees Fahrenheit and 3.8% moisture.



2. P004, Dry-006

Operations, Property and/or Equipment Description:

Spray Dryer No. 6

- a) 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. g)(1).
 - (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.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(F)	Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 0.19 pound per hour and 0.84 ton per year. Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.12 pound per hour and 0.53 ton per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).

(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations outlined in b)(1) are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limits.
- b. Compliance with OAC rule 3745-31-05(F) shall be demonstrated by the use of a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions and a thermal oxidizer capable of (1) reducing VOC emissions by at least 97% or (2) achieving an outlet concentration not to exceed 11 ppmVOC.

c) Operational Restrictions

- (1) The average combustion temperature within the regenerative thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1590 degrees Fahrenheit.
- (2) The scrubber water flow rate for the cyclonic scrubber shall be continuously maintained at a value of not less than 15 gallons per minute at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the average combustion temperature within the thermal oxidizer when the emissions unit is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within +/- 1 percent of the temperature being measured or +/- 5 degrees Fahrenheit, whichever is greater. The permittee shall record the average combustion temperature for each three-hour time block when the emissions unit is in operation on a daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the average combustion temperature falls below the value specified below for any continuous three-hour block of time when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time,



the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the thermal oxidizer temperature immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not fall below 1590 degrees Fahrenheit.

This value is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the average combustion temperature based upon information obtained during future VOC emission tests that demonstrate compliance with the allowable VOC emission rate for this emissions unit. In addition, approved revisions to the average combustion temperature will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (2) The permittee shall properly operate and maintain equipment to continuously monitor the cyclonic scrubber water flow rates during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the water flow rate on daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the water flow rate falls below the value specified below when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination



and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the water flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The minimum scrubber water flow rate for the cyclonic scrubber shall be maintained at or above 15.0 gallons per minute at all times when the emissions unit is in operation.

These values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to these values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the value will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the cyclonic scrubber and the regenerative thermal oxidizer during the 12-month reporting period for this emissions unit:
 - a. each period of time when the scrubber water flow rate was outside of the acceptable range;
 - i. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - ii. an identification of any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;
 - iii. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the scrubber water flow rate



into compliance with the acceptable range, was determined to be necessary and was not taken; and

iv. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.

b. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was less than 1590 degrees Fahrenheit;

i. an identification of each incident of deviation described in (b) where prompt investigation was not conducted;

ii. an identification of any period of time (start time and date and end time and date) when the emission unit was in operation and the process emissions were not vented to the thermal oxidizer;

iii. an identification of incident of deviation described in (b) where prompt corrective action, that would bring the average combustion temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and

iv. an identification of incident of deviation described in (b) where proper records were not maintained for the investigation and/or corrective action.

f) **Testing Requirements**

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) and c) of these terms and conditions shall be determined in accordance with the following methods:

a. **Emission Limitation:**

Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 0.19 pound per hour and 0.84 tons per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by (1) multiplying the emission rate (6.14 lbs/hr) by the control efficiency of the thermal oxidizer (1-0.97) or (2) multiplying the dryer controlled ppm (7.43 ppm) by the dryer flow (3,056 ACFM) then by the conversion factor (7.92×10^{-6} lb/ACFM determined at 215 degrees Fahrenheit and 3.8% moisture). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions rates were provided in PTIO application P0114727 submitted May 23, 2013.

b. **Emission Limitation:**

Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.12 pound per hour and



0.53 ton per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the production rate (200 lb/hr) by the loss factor (0.02) then by the control efficiency of the scrubber and panel filter (1-0.97). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions factors were provided in PTIO application P0114727 submitted May 23, 2013.

c. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

d. Emission Limitation:

Use of a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions and a thermal oxidizer capable of (1) reducing organic compound emissions by at least a 97% or (2) achieving an outlet concentration not to exceed 11 ppmv.

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 5 years of the last emissions test that demonstrated compliance. The last test which demonstrated compliance for this emissions unit was conducted on 10/9/12. Five years from this date is 10/9/17.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

Particulates	Method 5	40 <u>CFR</u> Part 60, Appendix A
VOC	Method 18 or 25A	40 <u>CFR</u> Part 60, Appendix A



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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 3745-21-10 or an alternative test protocol approved by the Ohio EPA. 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.

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

- iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
 - v. Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test.
 - vi. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - vii. 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 appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- e. Control Requirement:



The average combustion temperature within the regenerative thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1590 degrees Fahrenheit.

Applicable Compliance Method:

Compliance with the temperature restriction found in c)(1) shall be demonstrated by the record keeping requirements in d)(1).

f. Control Requirement:

The scrubber water flow rate for the cyclonic scrubber shall be continuously maintained at a value of not less than 15 gallons per minute at all times while the emissions unit is in operation.

Applicable Compliance Method:

Compliance with the scrubber water flow rate restriction found in c)(2) shall be demonstrated by the record keeping requirements in d)(2).

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that a new permit to install application would be required for an emissions unit if changes in the composition of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.
- (2) Since emissions units P001, P004, P021, P022 and P026 are vented to a common control system and have a combined stack, the allowable emissions rates during performance tests shall be determined by adding together the hourly emissions rates for the above mentioned emissions units, which shall be operated simultaneously during the test. The combined stack emission concentrations shall not exceed 11 ppm corrected to 215 degrees Fahrenheit and 3.8% moisture.



3. P005, Dry-007

Operations, Property and/or Equipment Description:

Spray Dryer No. 7

a) 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. g)(1).

(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.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(F)	<p>Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 1.60 pounds per hour and 7.01 tons per year.</p> <p>Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.45 pound per hour and 1.97 tons per year.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).</p>
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).

(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations outlined in b)(1) are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limits.
- b. Compliance with OAC rule 3745-31-05(F) shall be demonstrated by the use of a packed bed scrubber with at least a 90% control efficiency for particulate emissions and at least a 50% control efficiency for organic compound emissions.

c) Operational Restrictions

- (1) The scrubber water flow rate for the packed bed scrubber shall be continuously maintained at a value of not less than 40 gallons per minute at all times while the emissions unit is in operation.
- (2) The scrubber water for the packed bed scrubber shall be continuously maintained at an oxidation reduction potential of not less than 600 mV at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate and maintain equipment to continuously monitor the packed bed scrubber water flow rates during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual. The permittee shall record the water flow rate on daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the water flow rate falls below the value specified below when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination



and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the water flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The minimum scrubber water flow rate for the packed bed scrubber shall be maintained at or above 40.0 gallons per minute at all times when the emissions unit is in operation.

This value is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the scrubber water flow rate based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the value will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (2) The permittee shall properly operate and maintain equipment to continuously monitor the oxidation reduction potential for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
- (3) The permittee shall collect and record the following information each day:
 - a. The oxidation reduction potential, in millivolts, once each day.
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the packed bed scrubber during the 12-month reporting period for this emissions unit:



- a. each period of time when the scrubber water flow rate was outside of the acceptable range;
 - i. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - ii. an identification of any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;
 - iii. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the scrubber water flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - iv. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.
 - b. Each period of time when the oxidation reduction potential for the packed bed scrubber was not maintained at the required levels outlined in c)(2).
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) and c) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 1.6 pounds per hour and 7.01 tons per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the emission rate (3.20 lbs/hr) by the control efficiency of the packed bed scrubber (1-0.50). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions rates were provided in PTIO application P0114727 submitted May 23, 2013.

Emission Limitation:

Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.45 pound per hour and 1.97 tons per year.



Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the production rate (lbs/hr) by the loss factor (0.05) then by the control efficiency of the packed bed scrubber (1-.90). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions rates were provided in PTIO application P0114727 submitted May 23, 2013.

b. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

c. Emission Limitation:

Compliance with OAC rule 3745-31-05(F) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions and at least a 50% control efficiency for organic compound emissions.

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 12 months after the issuance of this permit.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

Particulates Method 5 40 CFR Part 60, Appendix A

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

- iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions



unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

- v. Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test.
- vi. Personnel from the appropriate Ohio EPA District Office or local air agency 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.
- vii. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

d. Control Requirement:

The scrubber water flow rate for the packed bed scrubber shall be continuously maintained at a value of not less than 40 gallons per minute at all times while the emissions unit is in operation.

Applicable Compliance Method:

Compliance with the scrubber water flow rate restriction found in c)(1) shall be demonstrated by the record keeping requirements in d)(1).

e. Control Requirement:

The scrubber water for the packed bed scrubber shall be continuously maintained at an oxidation reduction potential of not less than 600 mV at all times while the emissions unit is in operation.



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Applicable Compliance Method:

Compliance with the scrubber oxidation reduction potential restriction found in c)(2) shall be demonstrated by the record keeping requirements in d)(3).

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that a new permit to install application would be required for an emissions unit if changes in the composition of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.



4. P026, Dry-013

Operations, Property and/or Equipment Description:

Glatt fluid bed dryer 13

a) 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. g)(1).

(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.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 0.21 pound per hour and 0.92 ton per year.</p> <p>Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.21 pound per hour and 0.92 ton per year.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).</p>
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations outlined in b)(1) are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limits.
- b. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions and a thermal oxidizer capable of (1) reducing organic compound emissions by at least a 97% or (2) achieving an outlet concentration not to exceed 11 ppmv.

c) Operational Restrictions

- (1) The average combustion temperature within the regenerative thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1590 degrees Fahrenheit.
- (2) The scrubber water flow rate for the cyclonic scrubber shall be continuously maintained at a value of not less than 15 gallons per minute at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the average combustion temperature within the thermal oxidizer when the emissions unit is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within +/- 1 percent of the temperature being measured or +/- 5 degrees Fahrenheit, whichever is greater. The permittee shall record the average combustion temperature for each three-hour time block when the emissions unit is in operation on a daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the average combustion temperature falls below the value specified below for any continuous three-hour block of time when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.



In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the thermal oxidizer temperature immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not fall below 1590 degrees Fahrenheit.

This value is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the average combustion temperature based upon information obtained during future organic compound emission tests that demonstrate compliance with the allowable organic compound emission rate for this emissions unit. In addition, approved revisions to the average combustion temperature will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (2) The permittee shall properly operate and maintain equipment to continuously monitor the cyclonic scrubber water flow rates during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual. The permittee shall record the water flow rate on daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the water flow rate falls below the value specified below when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date(s) the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period



of time (in minutes) during which there was a deviation, the water flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The minimum scrubber water flow rate for the wet scrubber shall be maintained at or above 15.0 gallons per minute at all times when the emissions unit is in operation.

These values are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to these values based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the value will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the cyclonic scrubber and the regenerative thermal oxidizer during the 12-month reporting period for this emissions unit:
 - a. each period of time when the scrubber water flow rate was outside of the acceptable range;
 - i. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - ii. an identification of any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;
 - iii. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the scrubber water flow rate(s) into compliance with the acceptable range, was determined to be necessary and was not taken; and



- iv. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.
- b. all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer was less than 1590 degrees Fahrenheit;
 - i. an identification of each incident of deviation described in (b) where prompt investigation was not conducted;
 - ii. an identification of any period of time (start time and date and end time and date) when the emission unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. an identification of incident of deviation described in (b) where prompt corrective action, that would bring the average combustion temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - iv. an identification of incident of deviation described in (b) where proper records were not maintained for the investigation and/or corrective action.

f) **Testing Requirements**

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) and c) of these terms and conditions shall be determined in accordance with the following methods:

- a. **Emission Limitation:**

Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 0.21 pound per hour and 0.92 ton per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by (1) multiplying the emission rate (350 lbs/hr) by the loss factor (0.02) then by the control efficiency of the thermal oxidizer (1-0.97) or (2) multiplying the dryer controlled ppm (7.30 ppm) by the dryer flow (3,632 ACFM) then by the conversion factor (7.92×10^{-6} lb/ACFM determined at 215 degrees Fahrenheit and 3.8% moisture). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions rates were provided in PTIO application P0114727 submitted May 23, 2013.

- b. **Emission Limitation:**

Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.21 pound per hour and 0.92 ton per year.



Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the production rate (350 lb/hr) by the loss factor (0.02) then by the control efficiency of the scrubber (1-0.97). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions factors were provided in PTIO application P0114727 submitted May 23, 2013.

c. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

d. Emission Limitation:

Use of a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions and a thermal oxidizer capable of (1) reducing organic compound emissions by at least a 97% or (2) achieving an outlet concentration not to exceed 11 ppmv.

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 5 years of the last emissions test that demonstrated compliance. The last test which demonstrated compliance for this emissions unit was conducted on 10/9/12. Five years from this date is 10/9/17.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

Particulates	Method 5	40 <u>CFR</u> Part 60, Appendix A
VOC	Method 18 or 25A	40 <u>CFR</u> Part 60, Appendix A

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 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test



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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.

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

- iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test.
- vi. Personnel from the appropriate Ohio EPA District Office or local air agency 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.
- vii. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

e. Control Requirement:

The average combustion temperature within the regenerative thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1590 degrees Fahrenheit.



Applicable Compliance Method:

Compliance with the temperature restriction found in c)(1) shall be demonstrated by the record keeping requirements in d)(1).

f. Control Requirement:

The scrubber water flow rate for the cyclonic scrubber shall be continuously maintained at a value of not less than 15 gallons per minute at all times while the emissions unit is in operation.

Applicable Compliance Method:

Compliance with the scrubber water flow rate restriction found in c)(2) shall be demonstrated by the record keeping requirements in d)(2).

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic pollutant will be less than 1.0 ton. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that a new permit to install application would be required for an emissions unit if changes in the composition of the materials or use of new materials would cause the emissions of any pollutant that has a listed Threshold Limit Value (TLV), as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices"), to increase to above 1.0 ton per year.
- (2) Since emissions units P001, P004, P021, P022 and P026 are vented to a common control system and have a combined stack, the allowable emissions rates during performance tests shall be determined by adding together the hourly emissions rates for the above mentioned emissions units, which shall be operated simultaneously during the test. The combined stack emission concentrations shall not exceed 11 ppm corrected to 215 degrees Fahrenheit and 3.8% moisture.



5. P027, Batch 2

Operations, Property and/or Equipment Description:

Batch System for Spray Dryer No. 2

a) 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.

b) **Applicable Emissions Limitations and/or Control Requirements**

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(F)	Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.20 pound per hour and 0.88 ton per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).



(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations outlined in b)(1) are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limits.
- b. Compliance with OAC rule 3745-31-05(F) shall be demonstrated by the use of a scrubber with at least a 90% overall control efficiency for particulate emissions.

c) Operational Restrictions

- (1) The scrubber water flow rate for the packed bed scrubber shall be continuously maintained at a value of not less than 250 gallons per minute at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate and maintain equipment to continuously monitor the packed bed scrubber water flow rates during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual. The permittee shall record the water flow rate on daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the water flow rate falls below the value specified below when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the water flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The minimum scrubber water flow rate for the packed bed scrubber shall be maintained at or above 250 gallons per minute at all times when the emissions unit is in operation.



This value is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the scrubber water flow rate based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the value will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the packed bed scrubber during the 12-month reporting period for this emissions unit:
 - a. each period of time when the scrubber water flow rate was outside of the acceptable range;
 - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - c. an identification of any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;
 - d. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the scrubber water flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - e. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.
 - f. an identification of incident of deviation described in (b) where proper records were not maintained for the investigation and/or corrective action.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) and c) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.20 pound per hour and 0.88 ton per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the production rate (200 lbs/hr) by the loss factor (0.01) then by the control efficiency of the scrubber (1-0.90). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions factors were provided in PTIO application P0114727 submitted May 23, 2013.

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 12 months after the issuance of this permit.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test method shall be employed to demonstrate compliance with the allowable mass emission rates:

Particulates Method 5 40 CFR Part 60, Appendix A

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 3745-21-10 or an alternative test protocol approved by the Ohio EPA. 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.

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

- iv. The test shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.



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- v. Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test.
- vi. Personnel from the appropriate Ohio EPA District Office or local air agency 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.
- vii. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

b. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

c. Control Requirement:

The scrubber water flow rate for the cyclonic scrubber shall be continuously maintained at a value of not less than 250 gallons per minute at all times while the emissions unit is in operation.

Applicable Compliance Method:

Compliance with the scrubber water flow rate restriction found in c)(1) shall be demonstrated by the record keeping requirements in d)(1).



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g) Miscellaneous Requirements

- (1) Since this emissions unit is vented to a common control system and stack that is shared by other emissions units at the facility, the allowable emissions rate during performance tests shall be determined by adding together the hourly emissions rates for all emissions units sharing the common control system and stack.



6. P028, Batch 6

Operations, Property and/or Equipment Description:

Batch System for Spray Dryer No. 6

a) 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.

b) **Applicable Emissions Limitations and/or Control Requirements**

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(F)	Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.20 pound per hour and 0.88 ton per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).



(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations outlined in b)(1) are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limits.
- b. Compliance with OAC rule 3745-31-05(F) shall be demonstrated by the use of a scrubber with at least a 90% overall control efficiency for particulate emissions.

c) Operational Restrictions

- (1) The scrubber water flow rate for the packed bed scrubber shall be continuously maintained at a value of not less than 250 gallons per minute at all times while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate and maintain equipment to continuously monitor the packed bed scrubber water flow rates during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual. The permittee shall record the water flow rate on daily basis and keep a log of the downtime for the capture (collection) system control device, and monitoring equipment, when the associated emissions unit was in operation.

Whenever the monitored value for the water flow rate falls below the value specified below when the emissions unit is in operation, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation: the date and time the deviation began and the magnitude of the deviation at that time, the date the investigation was conducted, the names of the personnel who conducted the investigation, and the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable value specified below, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken: a description of the corrective action, the date it was completed, the date and time the deviation ended, the total period of time (in minutes) during which there was a deviation, the water flow rate immediately after the corrective action, and the names of the personnel who performed the work. Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

The minimum scrubber water flow rate for the packed bed scrubber shall be maintained at or above 250 gallons per minute at all times when the emissions unit is in operation.



This value is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the scrubber water flow rate based upon information obtained during future particulate emission tests that demonstrate compliance with the allowable particulate emission rate for this emissions unit. In addition, approved revisions to the value will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the packed bed scrubber during the 12-month reporting period for this emissions unit:
 - a. Each period of time when the scrubber water flow rate was outside of the acceptable range;
 - b. an identification of each incident of deviation described in (a) where a prompt investigation was not conducted;
 - c. an identification of any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the scrubber;
 - d. an identification of each incident of deviation described in (a) where prompt corrective action, that would bring the scrubber water flow rate into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - e. an identification of each incident of deviation described in (a) where proper records were not maintained for the investigation and/or the corrective action.
 - f. an identification of incident of deviation described in (b) where proper records were not maintained for the investigation and/or corrective action.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) and c) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

Particulate emissions (PE) and particulate emissions 10 microns and less in diameter (PM10) from the spray dryer shall not exceed 0.20 pound per hour and 0.88 ton per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the production rate (200 lbs/hr) by the loss factor (0.01) then by the control efficiency of the scrubber (1-0.90). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions factors were provided in PTIO application P0114727 submitted May 23, 2013.

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 12 months after the issuance of this permit.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test method shall be employed to demonstrate compliance with the allowable mass emission rates:

Particulates Method 5 40 CFR Part 60, Appendix A

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 3745-21-10 or an alternative test protocol approved by the Ohio EPA. 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.

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

- iv. The test shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.



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- v. Not later than 30 days prior to the proposed test date, the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test.
- vi. Personnel from the appropriate Ohio EPA District Office or local air agency 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.
- vii. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

b. Emission Limitation:

Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

c. Control Requirement:

The scrubber water flow rate for the cyclonic scrubber shall be continuously maintained at a value of not less than 250 gallons per minute at all times while the emissions unit is in operation.

Applicable Compliance Method:

Compliance with the scrubber water flow rate restriction found in c)(1) shall be demonstrated by the record keeping requirements in d)(1).



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g) Miscellaneous Requirements

- (1) Since this emissions unit is vented to a common control system and stack that is shared by other emissions units at the facility, the allowable emissions rate during performance tests shall be determined by adding together the hourly emissions rates for all emissions units sharing the common control system and stack.