



John R. Kasich, Governor
 Mary Taylor, Lt. Governor
 Craig W. Butler, Director

5/9/2016

Certified Mail

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

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

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1431070914
 Permit Number: P0119341
 Permit Type: Renewal
 County: Hamilton

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Cincinnati Enquirer. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically 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. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
 Permit Review/Development Section
 Ohio EPA, DAPC
 50 West Town Street Suite 700
 PO Box 1049
 Columbus, Ohio 43216-1049

and Southwest Ohio Air Quality Agency
 250 William Howard Taft Rd.
 Cincinnati, OH 45219

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Southwest Ohio Air Quality Agency at (513)946-7777.

Sincerely,

Michael E. Hopkins, P.E.
 Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA Region 5 Via E-Mail Notification
 SWOQA; Indiana; Kentucky

Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

Givaudan Flavors Corporation operates a flavor manufacturing facility in Cincinnati, Ohio (Hamilton County) and is currently classified as a synthetic minor facility for HAPs to avoid Title V. This permit action is a renewal FEPTIO for 22 emission units. HAPs - Acetaldehyde are emitted from two spray dryers, emission units P002 and P003. However, the facility manufactures flavors according to customer specifications so a facility-wide Synthetic Minor restriction is appropriate. During this renewal review, it was noted that the HAPs term was never cited in any of the facilities permits and that HAP's recordkeeping was never formally required. The facility was under the orders of a consent decree (Case Nos. A0307869) filed with the Common Pleas Courts on 10/15/03 which required the facility to apply for and obtain permits that contained a federally enforceable term requiring the use of scrubbers and RTO's on 20 emission units. The permit issued for P002 and P003 reduced the PTE from 236 tons per year of Acetaldehyde to a proposed 7.1 tons per year for both emission units. This renewal will continue to incorporate the federally enforceable requirement to operate the control device's.

These same emission units (P002 and P003) had a Chapter 31 modification issued on May 7, 2009. The modification was requested to by the facility to account for the ventilation of particulate emissions for a batch tank that serves sources P002 and P003. The new exhaust system was being installed to assure worker safety and vented through the same scrubber that was controlling P002 and P003. VOC emissions were not changed. That permit should have been written with dual BAT for Particulate emissions. This renewal permit follows the Feb 7, 2017 guidance and incorporates dual BAT. In this renewal application, the facility noted that the hourly emission limitation calculations they submitted for particulate were incorrect. They requested that we use the corrected value. The annual limitation was correct therefore needed no adjustment.

All other emission units were renewed with slight updates to the terms and conditions. Emission Unit P005 was omitted from this renewal application by SWOAQA. An administrative modification will be submitted for review and issuance for P005 along with this renewal permit.

3. Facility Emissions and Attainment Status:

Givaudan Flavors Corporation is located in Hamilton County which is in attainment for all pollutants except the 8-hour ozone standard. The facility wide PTE for HAPs is 236.66 TPY. With the federally enforceable requirement to operate a control device with 97% control efficiency on emission units P003 and P004 and the addition of the facility wide HAP limitation term, the facility will be limited to less than the major source threshold for TV permitting.

During this renewal review, SWOAQA determined that the facility would also be TV for VOC's without the federally enforceable requirement to run the control devices required in the consent decree. While SWOAQA understands that the consent decree required the use of the control devices to be federally enforceable and notes that the permits resulting from the signing of the consent decree were issued in draft, it is our desire to associate this requirement with the Ohio Administrative Code rule 3745-31-05(D) to ensure further clarity in the future.



4. **Source Emissions:**
Givaudan Flavors Corporation will operate under a facility wide synthetic minor limitation for HAPs and will continue to employ the federally enforceable control devices required by the consent decree signed on 10/15/03 limiting VOC emissions to below the major source threshold and thus avoiding TV permitting.
5. **Conclusion:**
This permit continues to contain federally enforceable requirements that ensure the HAP and VOC emissions for the facility are maintained below Title V applicability threshold. Monthly monitoring, record keeping and annual reporting will be required to monitor compliance.
6. **Please provide additional notes or comments as necessary:**

None
7. **Total Permit Allowable Emissions Summary (for informational purposes only):**

<u>Pollutant</u>	<u>Tons Per Year</u>
<u>VOC</u>	<u>18.04</u>
<u>PE/PM10</u>	<u>40.79</u>
Individual HAP	<u>9.9</u>
Combined HAPs	<u>24.9</u>

PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at: <http://epa.ohio.gov/actions.aspx> or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-2129 email: HClerk@epa.ohio.gov

Draft Air Pollution Permit-to-Install and Operate Renewal
Givaudan Flavors Corporation

110 E. 70th St., Cincinnati, OH 45216

ID#:P0119341

Date of Action: 5/9/2016

Permit Desc:Renewal Permit for 22 spray dryers and batch blending operations. The renewal permit renews and clarifies the federally enforceable requirements of Consent Order Case No. A0307869..

The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the ID # or: Bonnie Pray, Southwest Ohio Air Quality Agency, 250 William Howard Taft Rd., Cincinnati, OH 45219. Ph: (513)946-7777



DRAFT

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

Facility ID:	1431070914
Permit Number:	P0119341
Permit Type:	Renewal
Issued:	5/9/2016
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance



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

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Draft Permit-to-Install and Operate

Givaudan Flavors Corporation

Permit Number: P0119341

Facility ID: 1431070914

Effective Date: To be entered upon final issuance

Authorization

Facility ID: 1431070914
Application Number(s): A0053361, A0055008
Permit Number: P0119341
Permit Description: Renewal Permit for 22 spray dryers and batch blending operations. The renewal permit renews and clarifies the federally enforceable requirements of Consent Order Case No. A0307869.
Permit Type: Renewal
Permit Fee: \$0.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 5/9/2016
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

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

Craig W. Butler
Director



Authorization (continued)

Permit Number: P0119341

Permit Description: Renewal Permit for 22 spray dryers and batch blending operations. The renewal permit renews and clarifies the federally enforceable requirements of Consent Order Case No. A0307869.

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:	P0114727
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P002
Company Equipment ID:	Dry-004
Superseded Permit Number:	P0104258
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P003
Company Equipment ID:	Dry-005
Superseded Permit Number:	P0104258
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P004
Company Equipment ID:	Dry-006
Superseded Permit Number:	P0114727
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P020
Company Equipment ID:	Dry-009
Superseded Permit Number:	P0106154
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P021
Company Equipment ID:	Dry-010
Superseded Permit Number:	P0109835
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P022
Company Equipment ID:	Dry-011
Superseded Permit Number:	P0109835
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P026
Company Equipment ID:	Dry-013
Superseded Permit Number:	P0114727
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P027
Company Equipment ID:	Batch 2
Superseded Permit Number:	P0114727
General Permit Category and Type:	Not Applicable



Draft Permit-to-Install and Operate

Givaudan Flavors Corporation

Permit Number: P0119341

Facility ID: 1431070914

Effective Date: To be entered upon final issuance

Emissions Unit ID:	P028
Company Equipment ID:	Batch 6
Superseded Permit Number:	P0114727
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P030
Company Equipment ID:	Batch 9
Superseded Permit Number:	P0106154
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P031
Company Equipment ID:	Batch 10
Superseded Permit Number:	P0106154
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P032
Company Equipment ID:	Batch 11
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P033
Company Equipment ID:	Blend A
Superseded Permit Number:	P0111424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P034
Company Equipment ID:	Blend B
Superseded Permit Number:	P0111424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P035
Company Equipment ID:	Blend C
Superseded Permit Number:	P0111424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P036
Company Equipment ID:	Blend D
Superseded Permit Number:	P0111424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P037
Company Equipment ID:	Blend E
Superseded Permit Number:	P0111424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P040
Company Equipment ID:	Pre-Weigh Area
Superseded Permit Number:	P0110705
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P041
Company Equipment ID:	Pilot Plant Process
Superseded Permit Number:	P0110705
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P042
Company Equipment ID:	DRY- Vector
Superseded Permit Number:	P0106298
General Permit Category and Type:	Not Applicable



Draft Permit-to-Install and Operate

Givaudan Flavors Corporation

Permit Number: P0119341

Facility ID: 1431070914

Effective Date: To be entered upon final issuance

Emissions Unit ID:

Company Equipment ID:

Superseded Permit Number:

General Permit Category and Type:

P043

Batch Vector FBD

P0117837

Not Applicable



Draft Permit-to-Install and Operate
Givaudan Flavors Corporation
Permit Number: P0119341
Facility ID: 1431070914
Effective Date: To be entered upon final issuance

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. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. 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 of this permit 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 submitting 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 emission 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.

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.



Draft Permit-to-Install and Operate
Givaudan Flavors Corporation
Permit Number: P0119341
Facility ID: 1431070914
Effective Date: To be entered upon final issuance

B. Facility-Wide Terms and Conditions

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) B.2 through B.5.
2. The total allowable emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units B001, B003, B004, P001, P002, P003, P004, P005, P020, P021, P022, P026, P027, P028, P030, P031, P032 P033, P034, P035 P036, P037, P038, P039, P040, P041, P042 P043, P044, P045, other de minimus air contaminant sources, as defined in OAC rule 3745-15-05, and other air contaminant sources exempt from the requirement to obtain a permit-to-install pursuant to OAC rule 3745-31-03 installed subsequent to the issuance of this permit, combined, shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based on a rolling, 12-month summation.
3. The permittee shall collect and record the following information each month for the emissions units identified in 2. including fugitive emissions from pumps, valves and connectors (for the entire facility):
 - a) the name and identification number/code of each HAP containing material employed;
 - b) the individual HAP emissions, in tons, for all the materials employed;
 - c) the combined HAPs emissions, in tons, for all the materials employed;
 - d) the rolling, 12-month individual HAP emissions, in tons; and
 - e) the rolling, 12-month combined HAPs emissions, in tons.

A listing of the HAPs can be found in Section 112(b) of the Clean Air Act or can be obtained by contacting your Ohio EPA field office or local air agency contact. This information does not have to be kept on a line-by-line basis.
4. The permittee shall submit quarterly deviation (excursion) reports for the following emissions unit(s) that identify:
 - a) all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. deviations from the limitations outlined in term B.2.



Draft Permit-to-Install and Operate

Givaudan Flavors Corporation

Permit Number: P0119341

Facility ID: 1431070914

Effective Date: To be entered upon final issuance

- b) the probable cause of each deviation (excursion);
- c) any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d) the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency)

- 5. Compliance with the emission limitations in B.2. of these terms and conditions shall be demonstrated by the recordkeeping requirements specified in B.3.



Draft Permit-to-Install and Operate
Givaudan Flavors Corporation
Permit Number: P0119341
Facility ID: 1431070914
Effective Date: To be entered upon final issuance

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. b)(1)d., b)(2)b., d)(1), d)(2), e)(3) and f)(1)c.

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 0.19 pound per hour and 0.84 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 0.12 pound per hour and 0.53 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> <p>See b)(2)b. and b)(2)c.</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided 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).
d.	OAC rule 3745-31-05(D)	See Section B.2. See b)(2)b.

(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) and OAC rule 3745-31-05(D) 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 15 ppmv VOC.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid

electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in “i” or “ii” (above) where a prompt investigation was not conducted;
 - iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
 - v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - vi. each period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - vii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the panel filter and scrubber;
 - viii. each incident of deviation described in “vi” or “vii” (above) where a prompt investigation was not conducted;
 - ix. each incident of deviation described in “vi” or “vii” where prompt corrective action, that would bring the liquid flow rate into compliance with the



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appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and

- x. each incident of deviation described in "vi" or "vii" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

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.

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 15 ppmv VOC

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 (10.65 ppm) by the dryer flow (3,056 ACFM) then by the conversion factor (5.82×10^{-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 emission rates were provided in PTIO application A0053361, 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 emission rates were provided in PTIO application A0053361, submitted May 23, 2013.

Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

c. 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 15 ppmv VOC.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation and allowable mass emissions rate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

PE Method 5 40 CFR Part 60, Appendix A

PM10 Method 201A 40 CFR Part 51, Appendix M

OC Method 25A 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. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office’s or local air agency’s refusal to accept the results of the emission test(s).
- 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(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.

d. 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).

e. 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).

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified federally enforceable permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new federally enforceable permit-to-install and operate.

- (2) Since emissions units P001, P004, 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.

- (3) Emissions units P001, P004, P022, and P026 are vented under normal operation to regenerative thermal oxidizer ROX-002 (RTO#2). During periods when RTO#2 is out of service for maintenance outages, emission units P001, P004, and P026 may be redirected to regenerative thermal oxidizer ROX-001 (RTO#1) through a permanent crossover flow valve and piping arrangement blocking vented emissions to RTO#2. Depending upon operational needs while RTO#2 is out of service, combined vented emissions to RTO#1 may alternatively be cross-tied to a common duct with RTO#4 whereby the vented emissions will be split between the two RTOs.



2. P002, Dry-004

Operations, Property and/or Equipment Description:

Spray Dryer 4

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. b)(1)h., b)(2)b., d)(1), d)(2), e)(3) and f)(1)c.

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), as effective 11/30/01.	Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.25 pound per hour and 1.09 tons per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-17-07(B)(1). See b)(2)(c) below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06.	See b)(2)(d) below.



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(F)	Organic compound (OC) emissions from the spray dryer shall not exceed 0.81 pound per hour and 3.55 tons per year. See b)(2)b. and b)(2)e.
d.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	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).
f.	OAC rule 3745-17-07(B)(1)	Visible fugitive particulate emissions shall not exceed 20 percent opacity, as a three-minute average.
g.	OAC rule 3745-17-08(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).
h.	OAC rule 3745-31-05(D)	See Section B.2. See b)(2)b.

(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations outlined in (b)(1)(a) 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 rules 3745-31-05(F) and 3745-31-05(D) 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 reducing VOC emissions by at least 97%.
- c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code

(ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- d. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the Particulate Emissions (PE), emissions of Particulate Matter 10 microns or less in diameter (PM10) and emissions of particulate Matter 2.5 microns or less in diameter (PM2.5) from this emissions unit since the potential to emit taking into account air pollution controls installed on the source is less than ten tons per year.

- e. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

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 packed bed scrubber shall be continuously maintained at a value of not less than 500 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 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(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 water flow rate for the packed bed scrubber shall be maintained at or above 500 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the

potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

- i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in “i” or “ii” (above) where a prompt investigation was not conducted;
 - iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
 - v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - vi. each period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - vii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the panel filter and scrubber;
 - viii. each incident of deviation described in “vi” or “vii” (above) where a prompt investigation was not conducted;
 - ix. each incident of deviation described in “vi” or “vii” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - x. each incident of deviation described in “vi” or “vii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).



If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

f) Testing Requirements

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

a. Emission Limitation:

Organic compound (OC) emissions from the spray dryer shall not exceed 0.81 pound per hour and 3.55 tons per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the emission factor, 27 lbs/hr, by the control efficiency of the thermal oxidizer (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 emission factors were provided in PTI application 14-05386 submitted November 27, 2002

b. Emission Limitation:

Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.25 pound per hour and 1.09 ton per year.

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying both the production rate of the spray dryer (150 lb/hr) by the loss factor (0.05) by the control efficiency of the scrubber and panel filter (1-0.97) and adding the emissions from the batch tank (0.02 lbs/hr).

$$150 \text{ lbs/hr} \times (1 - 0.95) \times (1 - 0.97) = 0.23 \text{ lb/hr} + 0.02 \text{ lbs/hr} = 0.25 \text{ lb/hr}$$

Compliance with the annual emission limitation shall be determined by multiplying the hourly emissions of the spray dryer by 8760 hours per year and dividing by 2000 lbs/ton and then adding the emissions from the batch tank based on 6 batches per day and 365 days per year (0.09 TPY).

$$0.23 \text{ lb/hr} \times 8760 \text{ hrs/yr} \div 2000 \text{ lbs} = 1.00 \text{ TPY} + 0.09 \text{ TPY} = 1.09 \text{ TPY}$$

The emission factors were provided in PTIO application A0055008 submitted January 25, 2016.

c. 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 reducing VOC emissions by at least 97%.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation and allowable mass emissions rate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

PE Method 5 40 CFR Part 60, Appendix A

PM10 Method 201A 40 CFR Part 51, Appendix M

OC Method 25A 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. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the

appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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.

d. 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).

e. Control Requirement:

The water flow rate for the packed bed scrubber shall be continuously maintained at a value of not less than 500 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)

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 20 percent opacity as a three-minute average.

Applicable Compliance Method:

Compliance with the limitation for visible emissions of fugitive dust shall be determined through visible emissions observations performed in accordance U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

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 the performance tests shall be determined by adding together the hourly emissions rates for all emissions units sharing the common control system and stack.
- (2) Emissions units P002 and P003 are vented under normal operation to regenerative thermal oxidizer ROX-003 (RTO#4). During periods when regenerative thermal oxidizer ROX-002 (RTO#2) is out of service for maintenance outages, emission units that vent to RTO#2 under normal operation, may be redirected to regenerative thermal oxidizer ROX-001 (RTO#1) through a permanent crossover flow valve and piping arrangement blocking vented emission to RTO#2. Depending upon operational needs while RTO#2 is out of service, combined vented emissions to RTO#1 may alternatively be cross-tied to a common duct with RTO#4 whereby the vented emissions will be split between the two RTOs. If at any time the RTO#1/RTO#4 cross-tied common duct is being utilized, then emission units P002 and P003 shall both be shutdown.



3. P003, Dry-005

Operations, Property and/or Equipment Description:

Spray Dryer 5

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. b)(1)h., b)(2)b., d)(1), d)(2), e)(3) and f)(1)c.

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), as effective 11/30/01.	Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.25 pound per hour and 1.09 tons per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1) and OAC rule 3745-17-07(B)(1). See b)(2)c. below.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06.	See b)(2)d. below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(F)	Organic compound (OC) emissions from the spray dryer shall not exceed 0.81 pound per hour and 3.55 tons per year. See b)(2)b. and b)(2)f.
d.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	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).
f.	OAC rule 3745-17-07(B)(1)	Visible fugitive particulate emissions shall not exceed 20 percent opacity, as a three-minute average.
g.	OAC rule 3745-17-08(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).
h.	OAC rule 3745-31-05(D)	See Section B.2. See b)(2)b.

(2) Additional Terms and Conditions

- a. The hourly and annual emission limitations outlined in (b)(1)(a) 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 rules 3745-31-05(F) and 3745-31-05(D) 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 reducing VOC emissions by at least 97%.
- c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code

(ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- d. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.
- e. The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the Particulate Emissions (PE), emissions of Particulate Matter 10 microns or less in diameter (PM10) and emissions of particulate Matter 2.5 microns or less in diameter (PM2.5) from this emissions unit since the potential to emit taking into account air pollution controls installed on the source is less than ten tons per year.
- f. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

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 water flow rate for the packed bed scrubber shall be continuously maintained at a value of not less than 500 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 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(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 water flow rate for the packed bed scrubber shall be maintained at or above 500 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the

potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

- i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in “i” or “ii” (above) where a prompt investigation was not conducted;
 - iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
 - v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - vi. each period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - vii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the panel filter and scrubber;
 - viii. each incident of deviation described in “vi” or “vii” (above) where a prompt investigation was not conducted;
 - ix. each incident of deviation described in “vi” or “vii” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - x. each incident of deviation described in “vi” or “vii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

f) Testing Requirements

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

a. Emission Limitation:

Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.25 pound per hour and 1.09 ton per year.

Applicable Compliance Method:

Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.25 pound per hour and 1.09 ton per year.

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying both the production rate of the spray dryer (150 lb/hr) by the loss factor (0.05) by the control efficiency of the scrubber and panel filter (1-0.97) and adding the emissions from the batch tank (0.02 lbs/hr).

$$150 \text{ lbs/hr} \times (1 - 0.95) \times (1 - 0.97) = 0.23 \text{ lb/hr} + 0.02 \text{ lbs/hr} = 0.25 \text{ lb/hr}$$

Compliance with the annual emission limitation shall be determined by multiplying the hourly emissions of the spray dryer by 8760 hours per year and dividing by 2000 lbs/ton and then adding the emissions from the batch tank based on 6 batches per day and 365 days per year (0.09 TPY).

$$0.23 \text{ lb/hr} \times 8760 \text{ hrs/yr} \div 2000 \text{ lbs} = 1.00 \text{ TPY} + 0.09 \text{ TPY} = 1.09 \text{ TPY}$$

The emission factors were provided in PTIO application A0055008 submitted January 25, 2016.

b. Emission Limitation:

Organic compound (OC) emissions from the spray dryer shall not exceed 0.81 pound per hour and 3.55 tons per year.



Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the emission factor, 27 lbs/hr, by the control efficiency of the thermal oxidizer (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 emission factors were provided in PTI application 14-05386 submitted November 27, 2002.

c. 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 reducing VOC emissions by at least 97%.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation and allowable mass emissions rate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

PE Method 5 40 CFR Part 60, Appendix A

PM10 Method 201A 40 CFR Part 51, Appendix M

OC Method 25A 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. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator

voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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.

d. 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).

e. Control Requirement:

The water flow rate for the packed bed scrubber shall be continuously maintained at a value of not less than 500 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)

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 20 percent opacity as a three-minute average.

Applicable Compliance Method:

Compliance with the limitation for visible emissions of fugitive dust shall be determined through visible emissions observations performed in accordance U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

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 the performance tests shall be determined by adding together the hourly emissions rates for all emissions units sharing the common control system and stack.
- (2) Emissions units P002 and P003 are vented under normal operation to regenerative thermal oxidizer ROX-003 (RTO#4). During periods when regenerative thermal oxidizer ROX-002 (RTO#2) is out of service for maintenance outages, emission units that vent to RTO#2 under normal operation, may be redirected to regenerative thermal oxidizer ROX-001 (RTO#1) through a permanent crossover flow valve and piping arrangement blocking vented emission to RTO#2. Depending upon operational needs while RTO#2 is out of service, combined vented emissions to RTO#1 may alternatively be cross-tied to a common duct with RTO#4 whereby the vented emissions will be split between the two RTOs. If at any time the RTO#1/RTO#4 cross-tied common duct is being utilized, then emission units P002 and P003 shall both be shutdown.



4. 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. b)(1)d., b)(2)b., d)(1), d)(2), e)(3) and f)(1)c.

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 0.19 pound per hour and 0.84 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 0.12 pound per hour and 0.53 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> <p>See b)(2)b. and b)(2)c.</p>



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Givaudan Flavors Corporation

Permit Number: P0119341

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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided 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).
d.	OAC rule 3745-31-05(D)	See Section B.2. See b)(2)b.

(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 rules 3745-31-05(F) and 3745-32-05(D) 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 15 ppm VOC.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid

electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in “i” or “ii” (above) where a prompt investigation was not conducted;
 - iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
 - v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - vi. each period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - vii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the panel filter and scrubber;
 - viii. each incident of deviation described in “vi” or “vii” (above) where a prompt investigation was not conducted;
 - ix. each incident of deviation described in “vi” or “vii” where prompt corrective action, that would bring the liquid flow rate into compliance with the



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appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and

- x. each incident of deviation described in "vi" or "vii" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

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 (10.65 ppm) by the dryer flow (3,056 ACFM) then by the conversion factor (5.82×10^{-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 emission rates were provided in PTIO application A0046943 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 emission factors were provided in PTIO application A0046943 submitted May 23, 2013.

c. 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 15 ppmv VOC.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation and allowable mass emissions rate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

PE Method 5 40 CFR Part 60, Appendix A

PM10 Method 201A 40 CFR Part 51, Appendix M

OC Method 25A 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. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA

District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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.

d. **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).

e. 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)

f. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g. Emission Limitation:

Visible emissions of fugitive dust shall not exceed 20 percent opacity as a three-minute average.

Applicable Compliance Method:

Compliance with the limitation for visible emissions of fugitive dust shall be determined through visible emissions observations performed in accordance U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3).

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified federally enforceable permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new federally enforceable permit-to-install and operate.

- (2) Since emissions units P001, P004, 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.

- (3) Emissions units P001, P004, P022, and P026 are vented under normal operation to regenerative thermal oxidizer ROX-002 (RTO#2). During periods when RTO#2 is out of service for maintenance outages, emission units P001, P004, and P026 may be redirected to regenerative thermal oxidizer ROX-001 (RTO#1) through a permanent crossover flow valve and piping arrangement blocking vented emissions to RTO#2. Depending upon operational needs while RTO#2 is out of service, combined vented emissions to RTO#1 may alternatively be cross-tied to a common duct with RTO#4 whereby the vented emissions will be split between the two RTOs.



5. P020, Dry-009

Operations, Property and/or Equipment Description:

Spray Dryer 9 with Wet Cyclone Scrubber and Regenerative Thermal Oxidizer

- 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. d)(3) and d)(4).
 - (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. b)(1)d., b)(2)a., d)(1), d)(2), e)(3) and f)(1)c.
- 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>Organic compound (OC) emissions from the spray dryer shall not exceed 0.51 pound per hour and 2.23 tons per year.</p> <p>Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.60 pound per hour and 2.63 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> <p>The OC and PE/PM10 emission limitations established in PTIO P0106154 were based on the emissions unit's</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>potentials to emit. Therefore, no additional monitoring, record keeping, or reporting requirements are necessary to demonstrate compliance with these emission limitations.</p> <p>See b)(2)a. and b)(2)b.</p>
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided 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(A)(3).
d.	OAC rule 3745-31-05(D)	<p>See Section B.2.</p> <p>See b)(2)a.</p>

(2) Additional Terms and Conditions

- a. Compliance with OAC rules 3745-31-05(A)(3) and 3745-31-05(D) 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 15 ppmv VOC.
- b. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

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 incinerator 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, or by an ISA Certified Control Systems Technician, 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.

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 incinerator 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 incinerator, 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 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 manuals. The permittee shall record the water flow rate on daily basis.

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 dates 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 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 value 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.

- (3) The permit-to-install and operate (PTIO) application for this emissions unit, P020, was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install and operate application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Ground-Level Concentration (MAGLC).

The following summarizes the results of the modeling for the “worst case” pollutant(s):

Pollutant: Acetic Acid

TLV ($\mu\text{g}/\text{m}^3$): 25,000

Maximum Hourly Emission Rate (lbs/hr): 1.19

Predicted 1-Hour Maximum Ground-Level

Concentration ($\mu\text{g}/\text{m}^3$): 29

MAGLC ($\mu\text{g}/\text{m}^3$): 596

Physical changes to or in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the “Air Toxics Policy” is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the “Air Toxic Policy” will still be satisfied. If, upon evaluation, the permittee determines that the “Air Toxic Policy” will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in the “Air Toxic Policy” include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), than the lowest TLV previously modeled as documented in the most recent 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”);
 - b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
- (4) If the permittee determines that the “Air Toxic Policy” will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminate not previously emitted, and a modification of the existing permit to install and operate (PTIO) will not be required, even if the toxic air contaminant emissions are greater than the de minimus level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a “modification under other provisions of the rule, then the permittee shall obtain a final permit to install and operate prior to the change.

The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Policy", ORC 3704.03(F):

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. when the computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

e) Reporting Requirements

- (1) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;

- ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in “i” or “ii” (above) where a prompt investigation was not conducted;
 - iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
 - v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - vi. each period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - vii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the panel filter and scrubber;
 - viii. each incident of deviation described in “vi” or “vii” (above) where a prompt investigation was not conducted;
 - ix. each incident of deviation described in “vi” or “vii” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - x. each incident of deviation described in “vi” or “vii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to

September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic compound (OC) emissions from the spray dryer shall not exceed 0.51 pound per hour and 2.23 tons per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by (1) multiplying the emission factor (17.08 pounds per hour) by the control efficiency of the thermal oxidizer (1-0.97) or (2) multiplying the dryer controlled ppm (9.70ppm) by the dryer flow (9,037 ACFM) then by the conversion factor (5.82x 10⁻⁶lb/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 pounds per ton. The emission factor was initially provided in PTI application 14-05527 submitted January 15, 2004. The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0106154.

b. Emission Limitation:

Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.60 pound per hour and 2.63 TPY.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the production rate (1000 pounds per hour) by the loss factor (0.02) and then by the control efficiency of the panel filter and scrubber (1-0.97). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 pounds per ton. The loss factor was initially provided in PTI application 14-05527 submitted January 15, 2004. The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0106154.

c. 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 no later than August 31, 2017.



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- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M
OC	Method 25A	40 CFR Part 60, Appendix A

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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.

d. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.
- (2) Emissions units P020, P021, and P042 are vented to regenerative thermal oxidizer ROX-003 (RTO#4). During periods when regenerative thermal oxidizer ROX-002 (RTO#2) is out of service for maintenance outages, emission units that vent to RTO#2 under normal operation, may be redirected to regenerative thermal oxidizer ROX-001 (RTO#1) through a permanent crossover flow valve and piping arrangement blocking vented emission to RTO#2. Depending upon operational needs while RTO#2 is out of service, combined vented emissions to RTO#1 may alternatively be cross-tied to a common duct with RTO#4 whereby the vented emissions will be split between the two RTOs.



6. P021, Dry-010

Operations, Property and/or Equipment Description:

Spray Dryer No. 10

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. d)(4) and d)(5).

(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. b)(1)b., b)(2)b., d)(1), d)(2), e)(3) and f)(1)c.

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 0.30 pound per hour and 1.31 tons per year.</p> <p>Particulate emissions (PE) and particulate matter emissions ten 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> <p>See b)(2)a., b)(2)b. and b)(2)c.</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(D)	See Section B.2. See b)(2)b.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	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)a. 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. The permittee shall employ a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions a thermal oxidizer capable of (1) reducing VOC emissions by at least 97% or (2) achieving an outlet concentration not to exceed 15ppmv VOC.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate and maintain equipment to continuously monitor the cyclonic scrubber water flow rate 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 a daily basis.

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 scrubber water flow rate for the cyclonic 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.

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 value 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 operate and maintain a continuous temperature monitor and recorder which measures and records the average combustion temperature within the thermal incinerator 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, or by an ISA Certified Control Systems Technician 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.

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. (Pete- you don't have a temp value specified)

- (3) 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 incinerator 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 incinerator, 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.

- (4) The permit to install for this emissions unit, P021, was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN3 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN3 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetic Acid

TLV (ug/m³): 25,000,000

Maximum Hourly Emission Rate (lbs/hr): 1.47

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 33

MAGLC (ug/m³): 595

- (5) The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(d), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes

that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, 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");
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

e) Reporting Requirements

- (1) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:

- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
- i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in “i” or “ii” (above) where a prompt investigation was not conducted;
 - iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
 - v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - vi. each period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - vii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the panel filter and scrubber;
 - viii. each incident of deviation described in “vi” or “vii” (above) where a prompt investigation was not conducted;
 - ix. each incident of deviation described in “vi” or “vii” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - x. each incident of deviation described in “vi” or “vii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- b. the probable cause of each deviation (excursion);



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- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (4) The permittee shall submit annual reports, provided by the manufacturer or by a ISA Certified Control Systems Technician, of the accuracy for each thermocouple, monitor, and recorder as required in d)(2).
- f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) 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 0.30 pound per hour and 1.31 tons per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by (1) multiplying the emission rate, 10.11 lbs/hr, by the control efficiency of the thermal oxidizer (1-0.97) or (2) multiplying the dryer controlled ppm (20.41ppm) by the dryer flow (2,525 ACFM) then by the conversion factor (5.82×10^{-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 PTI application 14-05539 submitted February 12, 2004.

- b. Emission Limitation:

Particulate emissions (PE) and particulate matter emissions ten 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 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 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 PTI application 14-05539 submitted February 12, 2004.

c. 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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M
OC	Method 25A	40 CFR Part 60, Appendix A

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

iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may

result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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(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.

d. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.

(2) Emissions units P020, P021, and P042 are vented under normal operation to regenerative thermal oxidizer ROX-001 (RTO#1). During periods when RTO#1 is out of service for maintenance outages, emission unit P021 may be redirected to regenerative thermal oxidizer ROX-002 (RTO#2) through a permanent crossover flow valve and piping arrangement blocking vented emissions to RTO#1.

(3) During periods when regenerative thermal oxidizer ROX-002 (RTO#2) is out of service for maintenance outages, emission units that vent to RTO#2 under normal operation, may be redirected to regenerative thermal oxidizer ROX-001 (RTO#1) through a permanent crossover flow valve and piping arrangement blocking vented emission to RTO#2. Depending upon operational needs while RTO#2 is out of service, combined vented emissions to RTO#1 may alternatively be cross-tied to a common duct with RTO#4 whereby the vented emissions will be split between the two RTOs

7. P022, Dry-011

Operations, Property and/or Equipment Description:

Spray Dryer No. 11

- 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. d)(4) and d)(5).
 - (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. b)(1)b., b)(2)b., d)(1), d)(2), e)(3) and f)(1)c.
- 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 0.59 pound per hour and 2.59 tons per year.</p> <p>Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.39 pound per hour and 1.71 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> <p>See b)(2)a., b)(2)b. and b)(2)c.</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(D)	See Section B.2. See b)(2)b.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	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)a. 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. The permittee shall employ a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions a thermal oxidizer capable of (1) reducing VOC emissions by at least 97% or (2) achieving an outlet concentration not to exceed 15ppmv VOC.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate and maintain equipment to continuously monitor the cyclonic scrubber water flow rate 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 a daily basis.

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 scrubber water flow rate for the cyclonic 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.

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 value 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 operate and maintain a continuous temperature monitor and recorder which measures and records the average combustion temperature within the thermal incinerator 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, or by an ISA Certified Control Systems Technician 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.

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.

- (3) 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 incinerator 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 incinerator, 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.

- (4) The permit to install for this emissions unit, P022, was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN3 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN3 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetic Acid
TLV (ug/m3): 25,000,000
Maximum Hourly Emission Rate (lbs/hr): 1.47
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 33
MAGLC (ug/m3): 595

- (5) The above described evaluation determined that the maximum ground level concentration for the new or modified source was less than 80% of the MAGLC. Per ORC 3704.03(F)(4)(d), the owner or operator shall submit an annual report that describes any changes to the emissions unit that affect the air toxic modeling. Changes

that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, 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");
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

The permittee shall submit annual reports that describe any changes to this emissions unit which affect the air toxic modeling. If no changes were made during the year, then a report shall be submitted stating that no changes were made. This report is due by January 31 of each year and shall cover the previous calendar year.

e) Reporting Requirements

- (1) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:

- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
- i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in “i” or “ii” (above) where a prompt investigation was not conducted;
 - iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
 - v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - vi. each period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - vii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the panel filter and scrubber;
 - viii. each incident of deviation described in “vi” or “vii” (above) where a prompt investigation was not conducted;
 - ix. each incident of deviation described in “vi” or “vii” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - x. each incident of deviation described in “vi” or “vii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- b. the probable cause of each deviation (excursion);



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- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (4) The permittee shall submit annual reports, provided by the manufacturer or by a ISA Certified Control Systems Technician, of the accuracy for each thermocouple, monitor, and recorder as required in d)(2).

f) **Testing Requirements**

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) 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 0.59 pound per hour and 2.59 tons per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by (1) multiplying the emission rate, 19.53 lbs/hr, by the control efficiency of the thermal oxidizer (1-0.97) or (2) multiplying the dryer controlled ppm (20.07ppm) by the dryer flow (5,050 ACFM) then by the conversion factor (5.82×10^{-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 PTI application 14-05539 submitted February 12, 2004.

b. **Emission Limitation:**

Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.39 pound per hour and 1.71 tons per year.

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (650 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 PTI application 14-05539 submitted February 12, 2004.

c. 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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M
OC	Method 25A	40 CFR Part 60, Appendix A

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

iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

- 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(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.

d. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.



8. 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. b)(1)d., b)(2)b., d)(1), d)(2), e)(3) and f)(1)d.

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> <p>See b)(2)b. and b)(2)c.</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided 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(A)(3).
d.	OAC rule 3745-31-05(D)	See Section B.2. See b)(2)b.

(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 rules 3745-31-05(A)(3) and 3745-31-05(D) 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 15 ppmv.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid

electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in “i” or “ii” (above) where a prompt investigation was not conducted;
 - iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
 - v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
 - vi. each period of time (start time and date, and end time and date) when the scrubber water flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - vii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the panel filter and scrubber;
 - viii. each incident of deviation described in “vi” or “vii” (above) where a prompt investigation was not conducted;
 - ix. each incident of deviation described in “vi” or “vii” where prompt corrective action, that would bring the liquid flow rate into compliance



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with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and

- x. each incident of deviation described in “vi” or “vii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

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 (9.93 ppm) by the dryer flow (3,632 ACFM) then by the conversion factor (5.82×10^{-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 panel filter and 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 from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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 15 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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency or outlet concentration limitation and allowable mass emissions rate.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates:

PE Method 5 40 CFR Part 60, Appendix A

PM10 Method 201A 40 CFR Part 51, Appendix M

OC Method 25A 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. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office’s or local air agency’s refusal to accept the results of the emission test(s).
- 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(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 "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified federally enforceable permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new federally enforceable permit-to-install and operate.

(2) Since emissions units P001, P004, 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.



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- (3) Emissions units P001, P004, P022, and P026 are vented under normal operation to regenerative thermal oxidizer ROX-002 (RTO#2). During periods when RTO#2 is out of service for maintenance outages, emission units P001, P004, and P026 may be redirected to regenerative thermal oxidizer ROX-001 (RTO#1) through a permanent crossover flow valve and piping arrangement blocking vented emissions to RTO#2. Depending upon operational needs while RTO#2 is out of service, combined vented emissions to RTO#1 may alternatively be cross-tied to a common duct with RTO#4 whereby the vented emissions will be split between the two RTOs.

9. 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)	<p>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.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).</p> <p>See b)(2)b. and b)(2)c.</p>
b.	OAC rule 3745-17-07(A)(1)	<p>Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.</p>



	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 with at least a 90% overall control efficiency for particulate emissions.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 no later than August 31, 2017.
- 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. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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



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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 from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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).

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.



10. 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)	<p>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.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).</p> <p>See b)(2)b. and b)(2)c.</p>
b.	OAC rule 3745-17-07(A)(1)	<p>Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.</p>



	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 with at least a 90% overall control efficiency for particulate emissions
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 no later than August 31, 2017.
 - 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. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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.



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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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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).

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.

11. P030, Batch 9

Operations, Property and/or Equipment Description:

Batch System for Spray Dryer No. 9

- 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(A)(3)	<p>Particulate emissions (PE) from the batch system shall not exceed 1.0 pound per hour and 4.38 tons per year.</p> <p>Particulate matter emissions ten microns and less in diameter (PM10) from the batch system shall not exceed 0.57 pound per hour and 2.49 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> <p>The PE/PM10 emission limitations established in PTIO P0109341 were based on the emissions unit's potentials</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		to emit. Therefore, no additional monitoring, record keeping, or reporting requirements are necessary to demonstrate compliance with these emission limitations. See b)(2)a. and b)(2)b.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided 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(A)(3).

(2) Additional Terms and Conditions

- a. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber with at least a 90% overall control efficiency for particulate emissions.
- b. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) 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 manuals. The permittee shall record the water flow rate on daily basis.

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 dates 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 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 value 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.

d) Reporting Requirements

- (1) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:
- a. each period of time (start time and date, and end time and date) when the liquid flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
 - c. each incident of deviation described in “a” or “b” (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and the corrective actions, as identified in the monitoring and record keeping requirements of this permit.

e) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Particulate emissions (PE) from the batch system shall not exceed 1.0 pound per hour and 4.38 tons per year.

Particulate matter emissions ten microns and less in diameter (PM10) from the batch system shall not exceed 0.57 pound per hour and 2.49 tons per year.

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (1000 pounds/hour by the loss factor (0.01) then by the control efficiency of the scrubber (1-.90). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 pounds per ton. The loss factor of 0.01 was originally provided in PTI application 14-05539 submitted on February 12, 2004. The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0106154.

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



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- i. The emission testing shall be conducted no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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.



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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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

f) 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.

12. P031, Batch 10

Operations, Property and/or Equipment Description:

Batch System for Spray Dryer No. 10

- 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(A)(3)	<p>Particulate emissions (PE) from the batch system shall not exceed 0.35 pound per hour and 1.53 tons per year.</p> <p>Particulate matter emissions ten microns and less in diameter (PM10) from the batch system shall not exceed 0.20 pound per hour and 0.87 ton per year.</p> <p>The PE/PM10 emission limitations established in PTIO P0119341 were based on the emissions unit's potentials to emit. Therefore, no additional monitoring, record keeping, or reporting requirements are necessary to demonstrate compliance with these emission limitations. See b)(2)a. and b)(2)b.</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided 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(A)(3).

(2) Additional Terms and Conditions

- a. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber with at least a 90% overall control efficiency for particulate emissions.
- b. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

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 manuals. The permittee shall record the water flow rate on daily basis.

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 dates 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 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 value 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:

- a. each period of time (start time and date, and end time and date) when the liquid flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
- b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
- c. each incident of deviation described in “a” or “b” (above) where a prompt investigation was not conducted;
- d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
- e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and the corrective actions, as identified in the monitoring and record keeping requirements of this permit.

f) **Testing Requirements**

- (1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. **Emission Limitation:**

Particulate emissions (PE) from the batch system shall not exceed 0.35 pound per hour and 1.53 tons per year.

Particulate matter emissions ten microns and less in diameter (PM10) from the batch system shall not exceed 0.20 pound per hour and 0.87 ton per year.

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (350 pounds/hour by the loss factor (0.01) then by the control efficiency of the scrubber (1-.90). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 pounds per ton. The loss factor of 0.01 was originally provided in PTI application 14-05539 submitted on February 12, 2004. The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0106154. The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0106154.

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 no later than August 31, 2017.



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- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate..
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test dates, 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 times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA District Office’s or local air agency’s refusal to accept the results of the emission tests.
- vi. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the tests, 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 tests 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



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within 30 days following completion of the tests. 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 from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.



13. P032, Batch 11

Operations, Property and/or Equipment Description:

Batch System for Spray Dryer No. 11

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(A)(3)	<p>Particulate emissions (PE) from the batch system shall not exceed 0.60 pound per hour and 2.63 tons per year.</p> <p>Particulate matter emissions ten microns and less in diameter (PM10) from the batch system shall not exceed 0.34 pound per hour and 1.49 tons per year.</p> <p>The PE/PM10 emission limitations established in PTIO P0119341 were based on the emissions unit's potentials to emit. Therefore, no additional monitoring, record keeping, or reporting requirements are necessary to demonstrate compliance with these emission limitations. See b)(2)a. and b)(2)b.</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided 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(A)(3).

(2) Additional Terms and Conditions

- a. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber with at least a 90% overall control efficiency for particulate emissions.
- b. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

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 manuals. The permittee shall record the water flow rate on daily basis.

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 dates 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 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 value 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:

- a. each period of time (start time and date, and end time and date) when the liquid flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
- b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
- c. each incident of deviation described in “a” or “b” (above) where a prompt investigation was not conducted;
- d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
- e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and the corrective actions, as identified in the monitoring and record keeping requirements of this permit.

f) **Testing Requirements**

- (1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. **Emission Limitation:**

Particulate emissions (PE) from the batch system shall not exceed 0.60 pound per hour and 2.63 tons per year.

Particulate matter emissions ten microns and less in diameter (PM10) from the batch system shall not exceed 0.34 pound per hour and 1.49 tons per year.

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (600 pounds/hour) by the loss factor (0.01) then by the control efficiency of the scrubber (1-.90). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 pounds per ton. The loss factor of 0.01 was originally provided in PTI application 14-05539 submitted on February 12, 2004. The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0106154. The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0106154.

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 no later than August 31, 2017.



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- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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



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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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.

14. P033, Blend A

Operations, Property and/or Equipment Description:

Blending Operation A

- 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(A)(3)	Particulate emissions (PE) from the blending operation shall not exceed 1.43 pounds per hour and 6.26 tons per year. Particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.82 pound per hour and 3.56 tons per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1). See b)(2)a. and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.



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	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. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions
- b. The hourly and annual emission limitations outlined above are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limitations.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable scrubber liquid flow rate, that shall be maintained in order to demonstrate compliance, shall not be less than 500 gallons per minute, at all times while the emissions unit is in operation.
- (2) The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquid flow rate (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the scrubber liquid's flow rate on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;



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- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, 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:

- f. a description of the corrective action;
- g. the date the corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the flow rate readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (3) The limit for the liquid flow rate 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 permitted limit for the liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these emissions unit(s). In addition, approved revisions to the range or limit 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or

organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the liquid flow rate was not maintained within the applicable limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
 - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

f) **Testing Requirements**

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

- a. **Emissions Limitation:**

Particulate emissions (PE) from the blending operation shall not exceed 1.43 pounds per hour and 6.26 tons per year.

Particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.82 pound per hour and 3.56 tons per year.

Applicable Compliance Method:



Compliance with the hourly emission limitation shall be determined by the following calculation: (grains/dscf) X (dscfm) X (1 lb/7000 grains) X (1 hr/60 min), where the grain/dscf and dscfm is determined by the most recent PE source test witnessed by the Southwest Ohio Air Quality Agency.

Compliance with the annual emission limitation shall be determined by the following calculation: (grains/dscfm) X (dscfm) X (1 lb/7000 grains) X (1 hr/60 min) X (operating hours/year) X (ton/2000 lbs), where the grain/dscf and dscfm is determined by the most recent PE emissions test witnessed by the Southwest Ohio Air Quality Agency.

PM10 emissions are based on AP-42 Table 11.26-2 (56.8% PM10)

$$1.43 \text{ lbs of PE/hour} \times 0.57 \text{ lb of PM10/lb of PE} = 0.82 \text{ lb of PM10/hour}$$

Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the

approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.



15. P034, Blend B

Operations, Property and/or Equipment Description:

Blending Operation B

- 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(A)(3)	Particulate emissions (PE) from the blending operation shall not exceed 0.33 pound per hour and 1.46 tons per year. Particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.19 pound per hour and 0.83 ton per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1). See b)(2)a. and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.



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	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. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions.
- b. The hourly and annual emission limitations outlined above are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limitations.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable scrubber liquid flow rate, that shall be maintained in order to demonstrate compliance, shall not be less than 500 gallons per minute, at all times while the emissions unit is in operation.
- (2) The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquid flow rate (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the scrubber liquid's flow rate on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;

- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, 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:

- f. a description of the corrective action;
- g. the date the corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the flow rate readings immediately after the corrective action was implemented;
and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (3) The limit for the liquid flow rate 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 permitted limit for the liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these emissions unit(s). In addition, approved revisions to the range or limit 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the

Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the liquid flow rate was not maintained within the applicable limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
 - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

f) Testing Requirements

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

Particulate emissions (PE) from the blending operation shall not exceed 0.33 pound per hour and 1.46 tons per year.

Particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.19 pound per hour and 0.83 ton per year.



Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by the following calculation: (grains/dscf) X (dscfm) X (1 lb/7000 grains) X (1 hr/60 min), where the grain/dscf and dscfm is determined by the most recent PE source test witnessed by the Southwest Ohio Air Quality Agency.

Compliance with the annual emission limitation shall be determined by the following calculation: (grains/dscfm) X (dscfm) X (1 lb/7000 grains) X (1 hr/60 min) X (operating hours/year) X (ton/2000 lbs), where the grain/dscf and dscfm is determined by the most recent PE emissions test witnessed by the Southwest Ohio Air Quality Agency.

PM10 emissions are based on AP-42 Table 11.26-2 (56.8% PM10)

0.33 lbs of PE/hour x 0.57 lb of PM10/lb of PE = 0.19 lb of PM10/hour.

Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the

appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.

16. P035, Blend C

Operations, Property and/or Equipment Description:

Blending Operation C

- 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(A)(3)	<p>Particulate emissions (PE) from the blending operation shall not exceed 0.53 pound per hour and 2.34 tons per year. Particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.30 pound per hour and 1.33 tons per year.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1). See b)(2)a. and b)(2)c.</p>
b.	OAC rule 3745-17-07(A)(1)	<p>Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.</p>



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	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. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions.
- b. The hourly and annual emission limitations outlined above are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limitations.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable scrubber liquid flow rate, that shall be maintained in order to demonstrate compliance, shall not be less than 500 gallons per minute, at all times while the emissions unit is in operation.
- (2) The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquid flow rate (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the scrubber liquid flow rate on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;

- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, 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:

- f. a description of the corrective action;
- g. the date the corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the flow rate readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (3) The limit for the liquid flow rate 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 permitted limit for the liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these emissions unit(s). In addition, approved revisions to the range or limit 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically

identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the liquid flow rate was not maintained within the applicable limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
 - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

f) **Testing Requirements**

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

Particulate emissions (PE) from the blending operation shall not exceed 0.53 pound per hour and 2.34 tons per year.

Particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.30 pound per hour and 1.33 tons per year.



Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by the following calculation: (grains/dscf) X (dscfm) X (1 lb/7000 grains) X (1 hr/60 min), where the grain/dscf and dscfm is determined by the most recent PE source test witnessed by the Southwest Ohio Air Quality Agency.

Compliance with the annual emission limitation shall be determined by the following calculation: (grains/dscfm) X (dscfm) X (1 lb/7000 grains) X (1 hr/60 min) X (operating hours/year) X (ton/2000 lbs), where the grain/dscf and dscfm is determined by the most recent PE emissions test witnessed by the Southwest Ohio Air Quality Agency.

PM10 emissions are based on AP-42 Table 11.26-2 (56.8% PM10)

$$0.53 \text{ lbs of PE/hour} \times 0.57 \text{ lb of PM10/lb of PE} = 0.30 \text{ lb of PM10/hour}$$

Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the

appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.



17. P036, Blend D

Operations, Property and/or Equipment Description:

Blending Operation D

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(A)(3)	<p>Particulate emissions (PE) from the blending operation shall not exceed 1.17 pounds per hour and 5.11 tons per year.</p> <p>Particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.67 pound per hour and 2.9 tons per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1). See b)(2)a. and b)(2)c.</p>
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.



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	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. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions.
- b. The hourly and annual emission limitations outlined above are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limitations.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable scrubber liquid flow rate, that shall be maintained in order to demonstrate compliance, shall not be less than 500 gallons per minute, at all times while the emissions unit is in operation.
- (2) The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquid flow rate (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the scrubber liquid flow rate on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;

- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, 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:

- f. a description of the corrective action;
- g. the date the corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the flow rate readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (3) The limit for the liquid flow rate 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 permitted limit for the liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these emissions unit(s). In addition, approved revisions to the range or limit 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically

identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the liquid flow rate was not maintained within the applicable limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
 - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

f) **Testing Requirements**

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

Particulate emissions (PE) from the blending operation shall not exceed 1.17 pounds per hour and 5.11 tons per year.

Particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.67 pound per hour and 2.9 tons per year.

Applicable Compliance Method:



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Compliance with the hourly emission limitation shall be determined by the following calculation: (grains/dscf) X (dscfm) X (1 lb/7000 grains) X (1 hr/60 min), where the grain/dscf and dscfm is determined by the most recent PE source test witnessed by the Southwest Ohio Air Quality Agency.

Compliance with the annual emission limitation shall be determined by the following calculation: (grains/dscfm) X (dscfm) X (1 lb/7000 grains) X (1 hr/60 min) X (operating hours/year) X (ton/2000 lbs), where the grain/dscf and dscfm is determined by the most recent PE emissions test witnessed by the Southwest Ohio Air Quality Agency.

PM10 emissions are based on AP-42 Table 11.26-2 (56.8% PM10)

$$1.17 \text{ lbs of PE/hour} \times 0.57 \text{ lb of PM10/lb of PE} = 0.67 \text{ lb of PM10/hour}$$

Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the

approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- 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(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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.

18. P037, Blend E

Operations, Property and/or Equipment Description:

Blending Operation E

- 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(A)(3)	Particulate emissions* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.29 pound per hour and 1.27 tons per year. * PE = PM10 The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1). See b)(2)a. and b)(2)c.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.



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	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. Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions.
- b. The hourly and annual emission limitations outlined above are based upon the emissions unit's potential to emit. Therefore, no hourly or annual records are required to demonstrate compliance with these limitations.
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable scrubber liquid flow rate, that shall be maintained in order to demonstrate compliance, shall not be less than 250 gallons per minute, at all times while the emissions unit is in operation.
- (2) The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquid flow rate (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the scrubber liquid's flow rate on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;



- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, 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:

- f. a description of the corrective action;
- g. the date the corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the flow rate readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (3) The limit for the liquid flow rate 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 permitted limit for the liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these emissions unit(s). In addition, approved revisions to the range or limit 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the

Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the liquid flow rate was not maintained within the applicable limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
 - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" or "b" where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" or "b" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

f) **Testing Requirements**

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

Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the blending operation shall not exceed 0.29 pound per hour and 1.27 tons per year.



Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (286 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 PTI application 14-05539 submitted February 12, 2004.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to



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submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

- 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(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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.

19. P040, Pre-Weigh Area

Operations, Property and/or Equipment Description:

Pre-Weigh Area

- 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)(2).
 - (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), as effective 11/30/01	Particulate emissions* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the Pre-Weigh Area shall not exceed 0.14 pound per hour and 0.6 ton per year. * PE = PM10 See b)(2)a. and b)(2)c.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. and b)(2)c.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation specified pursuant to OAC rule 3745-31-05(A)(3). Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan, the rule based limitation of 5.24 pounds per hour will be effective.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.
 - i. Permit to Install/Operate P0119341 for this air contaminant source takes into account the use of a scrubber with a minimum control efficiency of 90 percent by weight for particulate emissions as a voluntary restriction as proposed by the permittee for the purposes of avoiding Best Available Technology requirements under OAC rule 3745-31-05(A)(3).
- c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable scrubber liquid flow rate, that shall be maintained in order to demonstrate compliance, shall not be less than 250 gallons per minute at all times while the emissions unit is in operation.
- (2) The permittee shall properly operate and maintain equipment to continuously monitor the scrubber liquid flow rate (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the scrubber liquid's flow rate on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for any parameter deviates from the range(s) or minimum limit(s) established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. 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 control equipment parameters within the acceptable range(s), or at or above the minimum limit(s) specified in this permit, 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:

- f. a description of the corrective action;
- g. the date the corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the flow rate readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

These range(s) and/or limit(s) for the liquid flow rate 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 the permitted range or limit for the liquid flow rate based upon information obtained during future performance tests that demonstrate compliance with the allowable particulate emission rate for this/these emissions unit(s). In addition, approved revisions to the range or limit 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this/these emissions unit(s):
 - a. each period of time (start time and date, and end time and date) when the the liquid flow rate was outside of the appropriate range or limit specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
 - b. 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;

- c. each incident of deviation described in “a” or “b” (above) where a prompt investigation was not conducted;
- d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
- e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

f) **Testing Requirements**

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

- a. **Emission Limitation:**

PE from the Pre-Weigh Area shall not exceed 0.14 pounds per hour and 0.60 ton per year.

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by the following equation: (emission factor of 0.01 gr PE/dscf) X (volumetric flow rate of 1,600 dscf/min) X (1 lb/7000 gr) X (60 min/hr). 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 derived from a Method 5 test on a similar source in April 2005. If required, compliance with the control requirement shall be demonstrated through an emissions test using 40 CFR Part 60 Appendix A, Methods 1 - 5.

- b. **Emission Limitation:**

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

- c. **Emission Limitation:**

Particulate Emissions shall not exceed 5.24 pounds per hour.

Applicable Compliance Method:

The hourly PE limitation is based upon Table I in OAC rule 3745-17-11(B). This limitation exceeds the emission units controlled potential to emit. Compliance with the emission limitation shall be demonstrated by the emission factors, control efficiencies and the operational parameters as submitted in the PTIO application for P0110705 submitted August 15, 2012.

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 will be determined by adding together the hourly emissions rates for all emissions units sharing the common control system and stack.
- (2) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified federally enforceable permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new federally enforceable permit-to-install and operate.

20. P041, Pilot Plant Process

Operations, Property and/or Equipment Description:

Pilot Plant Process

- 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. b)(1)e.
- 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), as effective 11/30/01	Organic Compound (OC) emissions from the pilot plant operations shall not exceed 0.45 pound per hour and 1.97 tons per year. Particulate emissions (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the pilot plant operations shall not exceed 0.62 pound per hour and 2.72 tons per year. See b)(2)a. and b)(2)c.
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)b. and b)(2)c.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		minute average, except as provided by rule.
d.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation specified pursuant to OAC rule 3745-31-05(A)(3), as effective 11/30/01. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan, the rule based limitation of 0.877 pounds per hour will be effective.
e.	OAC rule 3745-31-05(D)	See Section B.2.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.
 - i. Permit to Install/Operate P0119341 for this air contaminant source takes into account the following voluntary restrictions (including the use of any control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) under OAC rule 3745-31-05(A)(3):
 - (a) the permittee shall control particulate emissions from equipment (other than equipment that meets the de minimis air contaminant source exemption per OAC rule 3745-15-05) with the use a panel filter with at least a 80% control efficiency and either a wet venturi scrubber with at least a 85% control efficiency or a packed bed scrubber with at least a 90% control efficiency; and

- (b) the permittee shall control organic compound emissions with the use of a regenerative thermal oxidizer with at least a 97% control efficiency.
 - c. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.
- c) Operational Restrictions
 - (1) None.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall properly operate, and maintain equipment to continuously monitor the wet venturi and 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(s). The permittee shall record the water flow rate on daily basis.

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 packed bed scrubber shall be maintained at or above 2.25 gallons per minute at all times when the emissions unit is in operation.

The minimum scrubber water flow rate for the wet venturi scrubber shall be maintained at or above 2.25 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.

- (2) The permittee shall operate, and maintain a continuous temperature monitor and recorder which measures and records the average combustion temperature within the thermal incinerator 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.

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 incinerator 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 incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not fall below 1450 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.

- (3) The permittee shall operate and maintain a log of the equipment (other than equipment that meets the de minimis air contaminant source exemption per OAC rule 3745-15-05) that is installed and operating within the pilot plant. For each piece of equipment listed in the log, the permittee shall record the following information:
 - a. the date the equipment first became operational and the date the equipment was taken out of service;
 - b. the manufacturer, make and model number of the equipment; and
 - c. the control device(s) through which exhaust from the equipment is routed;
 - d. a calculation of the hourly controlled emissions rate of particulate matter and organic compound emissions from the equipment. This calculation shall be the uncontrolled emissions rate of the equipment (based upon information from the manufacturer, AP-42 or another source of reliable information as deemed appropriate by the Administrator) multiplied by one minus the control efficiency of the control device(s) to which the equipment is exhausted. The control efficiency for each control device shall be based upon the efficiencies set forth in b)(2)b.

These records shall be maintained at the facility for three years after the equipment is taken out of service.

e) Reporting Requirements

- (1) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber and the regenerative thermal oxidizer during the 12-month reporting period for this/these emissions unit(s):
 - a. each period of time when the scrubber water flow rate(s) was (were) 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 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(s), was (were) determined to be necessary and was (were) not taken; and
 - iii. 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 incinerator was less than 1450 degrees Fahrenheit;
 - i. an identification of each incident of deviation described in (b) where prompt investigation was not conducted;
 - ii. an identification of incident of deviation described in (b) where prompt corrective action, that would bring the average combustion temperature within the thermal incinerator into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - iii. an identification of incident of deviation described in (b) where proper records were not maintained for the investigation and/or corrective action.
 - (4) The permittee shall submit annual reports which identify all equipment (other than equipment that meets the de minimis air contaminant source exemption per OAC rule 3745-15-05) located at the pilot plant and the annual OC and PE emissions from such sources.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:



Particulate Emissions (PE) shall not exceed 0.877 lb/hr.

Applicable Compliance Method:

The hourly PE limitation is based upon Table I in OAC rule 3745-17-11(B). This limitation exceeds the emission units controlled potential to emit. Compliance with the emission limitation shall be demonstrated by the emission factors, control efficiencies and the operational parameters as submitted in the PTIO application for P0110705 submitted August 15, 2012.

Emission Limitation:

Particulate emissions (PE) and particulate matter emissions 10 microns and less in diameter (PM10) shall not exceed 2.72 TPY.

Applicable Compliance Method:

The emission limitations are equal to the emissions unit's potential to emit. The potential to emit was calculated by: $\{(0.62 \text{ lbs/hr}) \times (8760 \text{ hours/year})\} / (2000 \text{ lbs/ton})$ as provided in Permit to Install 14-05929 received on March 9, 2007. All PE is assumed to be PM10.

b. Emission Limitation:

Organic compound (OC) emissions shall not exceed 0.45 lb/hr and 1.97 TPY

Applicable Compliance Method:

Compliance with the hourly OC emission limitation shall be determined by summing the controlled emission rates calculated in d)(3)d. for all equipment installed in the pilot plant and included in the log required in d)(3).

Compliance with the annual OC emission limitation shall be determined by multiplying the rates of controlled emissions from each piece of equipment by the number of days that the equipment was in operation and by 24 hours per day.

c. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g) Miscellaneous Requirements

(1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual



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emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified federally enforceable permit-to-install and operate prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new federally enforceable permit-to-install and operate.

21. P042, DRY- Vector

Operations, Property and/or Equipment Description:

trial order fluid bed dryer

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. b)(1)f., b)(2)d., d)(1), d)(2), e)(3), and f)(1)a.

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) and ORC 3704.03(T)	This emissions unit shall be controlled by a thermal oxidizer capable of (1) reducing VOC emissions by at least 97% or (2) achieving an outlet concentration not to exceed 15 ppmv VOC. See b)(2)e.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Particulate Emissions (PE), emissions of Particulate Matter 10 microns or less in diameter (PM10) and emissions of Particulate Matter 2.5 microns or less in diameter (PM2.5) shall not exceed 0.04 pound per hour and 0.17 ton per year. The PE/PM10/PM2.5 emission limitations established in PTIO P0106298 were based on the emissions unit's potentials to emit. Therefore, no additional



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		monitoring, record keeping, or reporting requirements are necessary to demonstrate compliance with these emission limitations. See b)(2)a and b)(2)b.
c.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)c.
d.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	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).
f.	OAC rule 3745-31-05(D)	See Section B.2. See b)(2)d..

(2) Additional Terms and Conditions

- a. Compliance with the OAC Best Available Technology (BAT) requirements under 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.
- b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the Particulate Emissions (PE), emissions of Particulate Matter 10 microns or less in diameter (PM10) and emissions of particulate Matter 2.5 microns or less in diameter (PM2.5) particulate emissions from this emissions unit since the controlled potential to emit is less than ten tons per year.

- d. This emissions unit shall be controlled by a thermal oxidizer capable of (1) reducing VOC emissions by at least 97% or (2) achieving an outlet concentration not to exceed 15 ppmv VOC.
- e. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

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 incinerator 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, or by an ISA Certified Control Systems Technician, 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.

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 incinerator 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 incinerator, 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 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 manuals. The permittee shall record the water flow rate on daily basis.

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 dates 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 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 value 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all 3-hour blocks of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;
 - ii. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the thermal oxidizer;
 - iii. each incident of deviation described in "i" or "ii" (above) where a prompt investigation was not conducted;

- iv. each incident of deviation described in “i” or “ii” where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the thermal oxidizer into compliance with the acceptable range, was determined to be necessary and was not taken;
- v. each incident of deviation described in “i” or “ii” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit;
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

This emissions unit shall be controlled by a thermal oxidizer capable of (1) reducing VOC emissions by at least 97% or (2) achieving an outlet concentration not to exceed 15 ppmv VOC.

Particulate Emissions (PE), emissions of Particulate Matter 10 microns or less in diameter (PM10) and emissions of Particulate Matter 2.5 microns or less in diameter (PM2.5) shall not exceed 0.04 pound per hour and 0.17 ton per year.

Applicable Compliance Method:

The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0106298.

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 no later than August 31, 2017.



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ii. The emission testing shall be conducted to demonstrate compliance with the allowable control efficiency for organic compounds (OC), mass emissions limitations for particulate emissions (PE), particulate matter ten microns and less in diameter (PM10), and/or particulate matter 2.5 microns and less in diameter (PM2.5) in the appropriate averaging periods.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M
OC	Method 25A	40 CFR Part 60, Appendix A

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

iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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



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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.

b. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

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.
- (2) Emissions units P020, P021, and P042 are vented to regenerative thermal oxidizer ROX-003 (RTO#4). During periods when regenerative thermal oxidizer ROX-002 (RTO#2) is out of service for maintenance outages, emission units that vent to RTO#2 under normal operation, may be redirected to regenerative thermal oxidizer ROX-001 (RTO#1) through a permanent crossover flow valve and piping arrangement blocking vented emission to RTO#2. Depending upon operational needs while RTO#2 is out of service, combined vented emissions to RTO#1 may alternatively be cross-tied to a common duct with RTO#4 whereby the vented emissions will be split between the two RTOs.



22. P043, Batch Vector FBD

Operations, Property and/or Equipment Description:

batch operation for trial order fluid bed dryer

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(A)(3), as effective 11/30/01.	<p>Organic Compound (OC) emissions shall not exceed 0.05 pound per hour and 0.24 ton per year.</p> <p>Particulate Emissions (PE) shall not exceed 0.26 pound per hour and 1.14 tons per year.</p> <p>Emissions of Particulate Matter 10 microns or less in diameter (PM10) shall not exceed 0.15 pound per hour and 0.65 ton per year.</p> <p>Emissions of Particulate Matter 2.5 microns or less in diameter (PM2.5) shall not exceed 0.01 pound per hour and 0.04 ton per year.</p>



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>The PE/PM10/PM2.5 emission limitations established in PTIO P0119341 were based on the emissions unit's potentials to emit. Therefore, no additional monitoring, record keeping, or reporting requirements are necessary to demonstrate compliance with these emission limitations.</p> <p>See b)(2)a., b)(2)b. and b)(2)d.</p>
b.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/06	See b)(2)(c) below.
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(B)	<p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).</p> <p>When the 12/01/06 Ohio EPA SIP is approved and BAT is no longer applicable the PE limitation of 0.26 lbs/hr determined from OAC rule 3745-17-11(B) shall apply.</p>

(2) Additional Terms and Conditions

- a. Compliance with the OAC Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber having at least a 90% overall control efficiency for particulate emissions.
- b. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy

BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

- c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The BAT requirements under OAC rule 3745-31-05(A)(3) do not apply to the organic compound emissions from this emissions unit since the uncontrolled potential to emit is less than ten tons per year.

- d. The permittee shall also comply with the requirements of the Consent Order and Final Judgment Entry Case #A0307869 (State of Ohio vs. Givaudan Flavors Corporation) filed with the Hamilton County Clerk of Courts on October 15, 2003.

c) Operational Restrictions

- (1) None.

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 manuals. The permittee shall record the water flow rate on daily basis.

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 dates 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 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 ineffective 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 value 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) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted 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 wet scrubber during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the liquid flow rate was outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - b. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the scrubber;
 - c. each incident of deviation described in "a" or "b" (above) where a prompt investigation was not conducted;



- d. each incident of deviation described in “a” or “b” where prompt corrective action, that would bring the liquid flow rate into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and
- e. each incident of deviation described in “a” or “b” where proper records were not maintained for the investigation and the corrective actions, as identified in the monitoring and record keeping requirements of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Organic Compound (OC) emissions shall not exceed 0.05 pound per hour and 0.24 ton per year.

Particulate Emissions (PE) shall not exceed 0.26 pound per hour and 1.14 tons per year.

Emissions of Particulate Matter 10 microns and less in diameter (PM10) shall not exceed 0.15 pound per hour and 0.65 ton per year.

Emissions of Particulate Matter 2.5 microns and less in diameter (PM2.5) shall not exceed 0.01 pound per hour and 0.04 ton per year.

Applicable Compliance Method:

The detailed calculations used to develop these emission limitations can be found in the application for PTIO # P0117837.

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 no later than August 31, 2017.
- ii. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency and allowable mass emissions rate.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PE	Method 5	40 CFR Part 60, Appendix A
PM10	Method 201A	40 CFR Part 51, Appendix M
OC	Method 25A	40 CFR Part 60, Appendix A

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

- iv. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under “worst case” conditions expected during the life of the permit. As part of the information provided in the “Intent to Test” notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe “worst case” operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- v. Not later than 30 days prior to the proposed test date(s), 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(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office’s or local air agency’s refusal to accept the results of the emission test(s).
- 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(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.

b. Emission Limitation:

When the 12/01/06 Ohio EPA SIP is approved and BAT is no longer applicable the emission limitation of 0.26 lbs/hr found in OAC rule 3745-17-11(B) will apply.



Draft Permit-to-Install and Operate

Givaudan Flavors Corporation

Permit Number: P0119341

Facility ID: 1431070914

Effective Date: To be entered upon final issuance

Applicable Compliance Method:

The detailed calculations used to develop this emission limitation can be found in the application for PTIO # P0117837.

If required, 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 to demonstrate compliance with the allowable mass emission rates for particulate emissions (PE).
- ii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PE	Methods 1 - 5	40 CFR Part 60, Appendix A
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Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- iii. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
- iv. Not later than 30 days prior to the proposed test dates, 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 times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission tests.
- v. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the tests, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions tests 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 tests. 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.



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c. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g) Miscellaneous Requirements

(1) None.