



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL MODIFICATION  
HAMILTON COUNTY**

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:  
Lazarus Gov. Center  
P.O. Box 1049

**Application No: 14-05539**

**Fac ID: 1431070914**

**DATE: 6/6/2006**

Givaudan Flavors Corp  
David Schuster  
110 E 70th Street  
Cincinnati, OH 45216

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

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

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, Ohio 43215

Sincerely,

*Michael W. Ahern*

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section  
Division of Air Pollution Control

CC: USEPA

HCDES



Permit To Install  
Terms and Conditions

Issue Date: 6/6/2006  
Effective Date: 6/6/2006

**FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 14-05539**

Application Number: 14-05539  
Facility ID: 1431070914  
Permit Fee: **\$0**  
Name of Facility: Givaudan Flavors Corp  
Person to Contact: David Schuster  
Address: 110 E 70th Street  
Cincinnati, OH 45216

Location of proposed air contaminant source(s) [emissions unit(s)]:

**110 E 70th Street  
Cincinnati, Ohio**

Description of proposed emissions unit(s):

**Administrative modification to PTI 14-05539.**

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

## **A. Permit to Install General Terms and Conditions**

### **1. Compliance Requirements**

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

### **2. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

### **3. Records Retention Requirements**

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

### **4. Inspections and Information Requests**

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections,

**Givaudan Flavors Corp**  
**PTI Application: 14-05539**  
**Modification Issued: 6/6/2006**

**Facility ID: 143107091**

conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

#### **5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

#### **6. Permit Transfers**

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

#### **7. Air Pollution Nuisance**

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

#### **8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

#### **9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental

**Givaudan Flavors Corp**  
**PTI Application: 14-05539**  
**Modification Issued: 6/6/2006**

**Facility ID: 143107091**

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

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

#### **10. Public Disclosure**

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

#### **11. Applicability**

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

#### **12. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available

Givaudan Flavors Corp

Facility ID: 143107091

PTI Application: 14-05539

Modification Issued: 6/6/2006

Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

### 13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

### 14. Construction Compliance Certification

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

### 15. Fees

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

## B. Permit to Install Summary of Allowable Emissions

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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
PM	37.66
PM10	29.66
VOC	12.59

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P001 - Spray Dryer No. 2 - Modification	OAC rule 3745-31-02(A)(2)	OAC rule 3745-21-07(G)

OAC rule 3745-17-07(A)(1)

OAC rule 3745-17-11(B)

Applicable Emissions  
Limitations/Control Measures

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

Particulate emissions\* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.12 pound per hour and 0.53 tons per year.

\* PE = PM10

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).

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

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-02(A)(2).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant

to OAC rule 3745-31-02(A)(2).

**Modification Issued: 6/6/2006****2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** Compliance with OAC rule 3745-31-02(A)(2) 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 with at least a 97% control efficiency for organic compound emissions.

**B. 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.

**C. Monitoring and/or Recordkeeping Requirements**

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

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

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than 1590 degrees Fahrenheit.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
- 2. The permittee shall properly operate and maintain equipment to continuously monitor

**Givau****PTI A**Emissions Unit ID: **P001****Modification Issued: 6/6/2006**

the scrubber water flow rate for the cyclonic scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term B.1.
2. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the cyclonic scrubber were not maintained at the required levels outlined in term B.2.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

**E. Testing Requirements**

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

0.12 lb/hr PE/PM10

0.53 TPY PE/PM10

Applicable Compliance Method:

Compliance with the 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

**Givaudan Flavors Corp**  
**PTI Application: 14-05539**  
**Modif**

**Facility ID: 143107091**

Emissions Unit ID: **P001**

lbs/ton. The emissions factors were provided in PTI application 14-05539 submitted February 12, 2004.

**Givau****PTI A**Emissions Unit ID: **P001****Modification Issued: 6/6/2006**

b. Emission Limitation:

0.19 lb/hr VOC

0.84 TPY VOC

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the emission rate (6.14 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 emissions rates were provided in PTI application 14-05539 submitted February 12, 2004.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P001, P004, P021, P022 and P026 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emissions units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Givau  
PTI A

Emissions Unit ID: P004

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P004 - Spray Dryer No. 6 - Modification	OAC rule 3745-31-02(A)(2)	OAC rule 3745-21-07(G)
	OAC rule 3745-17-07(A)(1)	
	OAC rule 3745-17-11(B)	

**Givau****PTI A****Modification Issued: 6/6/2006**Emissions Unit ID: **P004**

Applicable Emissions  
Limitations/Control Measures

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

Particulate emissions\* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.12 pound per hour and 0.53 tons per year.

\* PE = PM10

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).

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

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-02(A)(2).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant

to OAC rule 3745-31-02(A)(2).

**Modification Issued: 6/6/2006****2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** Compliance with OAC rule 3745-31-02(A)(2) 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 with at least a 97% control efficiency for organic compound emissions.

**B. 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.

**C. Monitoring and/or Recordkeeping Requirements**

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

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

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than 1590 degrees Fahrenheit.

- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the cyclonic scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term B.1.
2. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the cyclonic scrubber were not maintained at the required levels outlined in term B.2.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

#### **E. Testing Requirements**

1. Compliance with the emission limitation in Section A.1 of these terms and conditions shall be determined in accordance with the following method(s):
  - a. Emission Limitation:  
  
0.12 lb/hr PE/PM10  
0.53 TPY PE/PM10

Applicable Compliance Method:

**Givau****PTI A****Modification Issued: 6/6/2006**Emissions Unit ID: **P004**

Compliance with the emission limitation shall be determined by multiplying the production rate ( 200 lbs/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

**Givau****PTI A****Modification Issued: 6/6/2006**Emissions Unit ID: **P004**

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.

b. Emission Limitation:

0.19 lb/hr VOC

0.84 TPY VOC

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the emission rate (6.14 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 emissions rates were provided in PTI application 14-05539 submitted February 12, 2004.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

## **F. Miscellaneous Requirements**

1. Since emissions units P001, P004, P021, P022 and P026 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P005 - Spray Dryer No. 7 - Modification	OAC rule 3745-31-02(A)(2)	OAC rule 3745-21-07(G)
	OAC rule 3745-17-07(A)(1)	
	OAC rule 3745-17-11(B)	

**Givau**

**PTI A**

**Modification Issued: 6/6/2006**

Emissions Unit ID: **P005**

Applicable Emissions  
Limitations/Control Measures

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

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

\* PE = PM10

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).

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

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-02(A)(2).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant

to OAC rule 3745-31-02(A)(2).

Modification Issued: 6/6/2006

**2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** Compliance with OAC rule 3745-31-02(A)(2) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions and at least a 50% control efficiency for organic compound emissions.

**B. Operational Restrictions**

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

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall properly operate and maintain equipment to continuously monitor the oxidation reduction potential for the packed bed scrubber while the emissions unit is in

**Emissions Unit ID: P005**

operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The oxidation reduction potential, in millivolts, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify all periods of time during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
2. The permittee shall submit deviation (excursion) reports that identify all days during which the oxidation reduction potential for the packed bed scrubber was not maintained at the required levels outlined in term B.2.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

#### **E. Testing Requirements**

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

- a. Emission Limitation:

0.45 lb/hr PE/PM10  
1.97 TPY PE/PM10

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (lb/hr) by the loss factor (0.05) 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

**Givau****PTI A****Modification Issued: 6/6/2006**  
12, 2004.Emissions Unit ID: **P005****b. Emission Limitation:**

1.6 lbs/hr VOC

7.01 TPY VOC

**Applicable Compliance Method:**

Compliance with the hourly emission limitation shall be determined by multiplying the emission rate, 3.20 lbs/hr, by the control efficiency of the wet scrubber (1-0.50). Annual emissions shall be determined by multiplying the hourly emissions by 8760 hours per year and dividing by 2000 lbs/ton. The emissions rates were provided in PTI application 14-05539 submitted February 12, 2004.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
2. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Givau

PTI A

Emissions Unit ID: P021

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P021 - Spray Dryer No. 10 - Modification	OAC rule 3745-31-05(A)(3)	OAC rule 3745-21-07(G)
	OAC rule 3745-17-07(A)(1)	
	OAC rule 3745-17-11(B)	

**Givau**

**PTI A**

**Modification Issued: 6/6/2006**

Emissions Unit ID: **P021**

Applicable Emissions  
Limitations/Control Measures

Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 0.30 pound per hour and 1.31 tons per year.

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 tons per year.

\* PE = PM10

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).

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

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

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**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions and a thermal oxidizer with at least a 97% control efficiency for organic compound emissions.

**B. 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 20 gallons per minute at all times while the emissions unit is in operation.

**C. Monitoring and/or Recordkeeping Requirements**

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

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

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than 1590 degrees Fahrenheit.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall properly operate and maintain equipment to continuously monitor

**Modification Issued: 6/6/2006**

the scrubber water flow rate for the cyclonic scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permit to install for this emissions units P021, P022 and P026 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 SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetic Acid

TLV (mg/m<sup>3</sup>): 25,000

Maximum Hourly Emission Rate (lbs/hr): 1.47

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 33

MAGLC (ug/m<sup>3</sup>): 595

Physical changes to or changes 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 Toxic 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 applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials,

**Emissions Unit ID: P021**

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.).

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 contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis 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 prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where 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.

#### **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks

**Givau  
PTI A**

Emissions Unit ID: **P021**

**Modification Issued: 6/6/2006**

of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term B.1.

2. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the cyclonic scrubber were not maintained at the required levels outlined in term B.2.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

**E. Testing Requirements**

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

- a. Emission Limitation:

0.21 lb/hr PE/PM10

0.92 TPY PE/PM10

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.

- b. Emission Limitation:

0.30 lb/hr VOC

1.31 TPY VOC

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the emission rate, 10.11 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 emissions rates were provided in PTI application 14-05539 submitted February

**Givaudan Flavors Corp**  
**PTI Application: 14-05539**  
**Modif**

**Facility ID: 143107091**

**Emissions Unit ID: P021**

12, 2004.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P001, P004, P021, P022 and P026 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.
3. The following terms and conditions of this permit are federally enforceable: A, B, C.1, C.2, D and E.

Givau  
PTI A

Emissions Unit ID: **P022**

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P022 - Spray Dryer No. 11 - Modification	OAC rule 3745-31-05(A)(3)	OAC rule 3745-21-07(G)
	OAC rule 3745-17-07(A)(1)	
	OAC rule 3745-17-11(B)	

**Givau****PTI A****Modification Issued: 6/6/2006**Emissions Unit ID: **P022**

Applicable Emissions  
Limitations/Control Measures

Volatile organic compound (VOC) emissions from the spray dryer shall not exceed 0.59 pound per hour and 2.59 tons per year.

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.

\* PE = PM10

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).

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

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant

to OAC rule 3745-31-05(A)(3).

**Modification Issued: 6/6/2006****2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a scrubber and a panel filter with at least a 97% overall control efficiency for particulate emissions and a thermal oxidizer with at least a 97% control efficiency for organic compound emissions.

**B. 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 40 gallons per minute at all times while the emissions unit is in operation.

**C. Monitoring and/or Recordkeeping Requirements**

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

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

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was less than 1590 degrees Fahrenheit.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
- 2. The permittee shall properly operate and maintain equipment to continuously monitor

**Emissions Unit ID: P022**

the scrubber water flow rate for the cyclonic scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
  - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permit to install for this emissions units P021, P022 and P026 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 SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Acetic Acid

TLV (mg/m3): 25,000

Maximum Hourly Emission Rate (lbs/hr): 1.47

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

MAGLC (ug/m3): 595

Physical changes to or changes 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 Toxic 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 applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials,

**Givau****PTI A**Emissions Unit ID: **P022****Modification Issued: 6/6/2006**

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.).

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 contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis 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 prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where 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.

**D. Reporting Requirements**

- 1 The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks

**Emissions Unit ID: P022**

of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term B.1.

2. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the cyclonic scrubber was not maintained at the required levels outlined in term B.2.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

### **E. Testing Requirements**

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

- a. Emission Limitation:

0.39 lb/hr PE/PM10  
1.71 TPY PE/PM10

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (650 lbs/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.

- b. Emission Limitation:

0.59 lb/hr VOC  
2.59 TPY VOC

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by multiplying the emission rate (19.53 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 emissions rates were provided in PTI application 14-05539 submitted February

**Givau****PTI A****Modification Issued: 6/6/2006**  
12, 2004.Emissions Unit ID: **P022**

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P001, P004, P021, P022 and P026 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.
3. The following terms and conditions of this permit are federally enforceable: A, B, C.1, C.2, D and E.

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P027 - Batch System for Spray Dryer No. 2 - Modification	OAC rule 3745-31-02(A)(2)	Particulate emissions* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the batch system shall not exceed 0.20 pound per hour and 0.88 tons per year.  * PE = PM10  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	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 3745-31-02(A)(2).

**2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** Compliance with OAC rule 3745-31-02(A)(2) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions.

## **B. 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.

## **C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## **D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
- 2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

## **E. Testing Requirements**

- 1. Compliance with the emission limitation in Section A.1 of these terms and conditions

**Givau**

**PTI A**

Emissions Unit ID: **P027**

**Modification Issued: 6/6/2006**

shall be determined in accordance with the following method(s):

a. Emission Limitation:

0.20 lb/hr PE/PM10

0.88 TPY PE/PM10

**Givau****PTI A**Emissions Unit ID: **P027****Modification Issued: 6/6/2006**

Applicable Compliance Method:

Compliance with the 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 PTI application 14-05539 submitted February 12, 2004.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P027, P028, P029, P030 and P031 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P028 - Batch System for Spray Dryer No. 6 - Modification	OAC rule 3745-31-02(A)(2)	Particulate emissions* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.20 pound per hour and 0.88 tons per year.  * PE = PM10  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	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 3745-31-02(A)(2).

**2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** Compliance with OAC rule 3745-31-02(A)(2) shall be demonstrated by the use of a scrubber with at least a 90% control efficiency for particulate emissions.

## **B. 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.

## **C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall properly operate, and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## **D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
- 2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

## **E. Testing Requirements**

- 1. Compliance with the emission limitation in Section A.1 of these terms and conditions

**Givau**

**PTI A**

Emissions Unit ID: **P028**

**Modification Issued: 6/6/2006**

shall be determined in accordance with the following method(s):

a. Emission Limitation:

0.20 lb/hr PE/PM10

0.88 TPY PE/PM10

**Givau****PTI A**Emissions Unit ID: **P028****Modification Issued: 6/6/2006**

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (200 lb/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.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P027, P028, P029, P030 and P031 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P029 - Batch System for Spray Dryer No. 8 - Modification	OAC rule 3745-31-05(A)(3)	Particulate emissions (PE) from the spray dryer shall not exceed 1.2 pounds per hour and 5.26 tons per year.  Particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.68 pound per hour and 2.99 tons per year.
	OAC rule 3745-17-07(A)(1)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-11(B)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.  The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

47

**Givaudan Flavors Corp**  
**PTI Application: 11-05520**  
**Modif**

**Facility ID: 143107091**

**Emissions Unit ID: P029**

**Modification Issued: 6/6/2006****2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** 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. 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.

**C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in terms B.1.
- 2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

**E. Testing Requirements**

**Givau**

**PTI A**

Emissions Unit ID: **P029**

**Modification Issued: 6/6/2006**

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

**Givau****PTI A**Emissions Unit ID: **P029****Modification Issued: 6/6/2006**

a. Emission Limitation:

1.2 lbs/hr PE  
5.26 TPY PE  
0.68 lb/hr PM10  
2.99 TPY PM10

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (1200 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 PM 10 emissions are based on AP-42 Table 11.26-2 (56.8% PM10).

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P027, P028, P029, P030 and P031 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

## PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

### A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P030 - Batch System for Spray Dryer No. 9 - Modification	OAC rule 3745-31-05(A)(3)	Particulate emissions (PE) from the spray dryer 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 spray dryer shall not exceed 0.57 pound per hour and 2.49 tons per year.
		The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	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).

52

**Givau**

**PTI A**

**Modification Issued: 6/6/2006**

Emissions Unit ID: **P030**

**Modification Issued: 6/6/2006****2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** 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. 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.

**C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in terms B.1.
- 2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

**E. Testing Requirements**

**Givau**

**PTI A**

Emissions Unit ID: **P030**

**Modification Issued: 6/6/2006**

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

**Givau  
PTI A**

Emissions Unit ID: **P030**

**Modification Issued: 6/6/2006**

a. Emission Limitation:

1.0 lb/hr PE  
4.38 TPY PE  
0.57 lb/hr PM10  
2.49 TPY PM10

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (1000 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 PM 10 emissions are based on AP-42 Table 11.26-2 (56.8% PM10).

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P027, P028, P029, P030 and P031 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P031 - Batch System for Spray Dryer No. 10 - Modification	OAC rule 3745-31-05(A)(3)	Particulate emissions* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.35 pound per hour and 1.53 tons per year.  * PE = PM10
	OAC rule 3745-17-07(A)(1)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).  Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	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**

- 2.a The hourly and annual emission limitations outlined in term A.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.
- 2.b 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. 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.

## **C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

## **E. Testing Requirements**

1. Compliance with the emission limitation in Section A.1 of these terms and conditions

**Givau**

**PTI A**

Emissions Unit ID: **P031**

**Modification Issued: 6/6/2006**

shall be determined in accordance with the following method(s):

a. Emission Limitation:

0.35 lb/hr PE/PM10

1.53 TPY PE/PM10

**Givaudan Flavors Corp**  
**PTI Application: 14-05539**  
**Modif**

**Facility ID: 143107091**

**Emissions Unit ID: P031**

**Applicable Compliance Method:**

Compliance with the emission limitation shall be determined by multiplying the production rate (350 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.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P027, P028, P029, P030 and P031 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Givau

PTI A

Emissions Unit ID: P032

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P032 - Batch System for Spray Dryer No. 11 - Modification	OAC rule 3745-31-05(A)(3)	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.  * PE = PM10  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	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**

- 2.a The hourly and annual emission limitations outlined in term A.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.
- 2.b 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. 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.

## **C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in terms B.1.
2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

## **E. Testing Requirements**

1. Compliance with the emission limitation in Section A.1 of these terms and conditions

**Givaudan Flavors Corp**  
**PTI Application: 11-05520**  
**Modif**

**Facility ID: 143107091**

**Emissions Unit ID: P032**

shall be determined in accordance with the following method(s):

a. Emission Limitation:

0.60 lb/hr PE/PM10

2.63 TPY PE/PM10

**Givau****PTI A**Emissions Unit ID: **P032****Modification Issued: 6/6/2006**

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (600 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.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P032 and P037 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Givau

PTI A

Emissions Unit ID: P033

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P033 - Blending Operation A - Modification	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).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	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

65

**Givau**

**PTI A**

**Modification Issued: 6/6/2006**

3745-31-05(A)(3).

Emissions Unit ID: **P033**

**Modification Issued: 6/6/2006****2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** 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. Operational Restrictions**

- 1. 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.

**C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
- 2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

**E. Testing Requirements**

**Givaudan Flavors Corp**  
**PTI Application: 11-05520**  
**Modif**

**Facility ID: 143107091**

**Emissions Unit ID: P033**

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

**Givau  
PTI A**

Emissions Unit ID: **P033**

**Modification Issued: 6/6/2006**

a. Emission Limitation:

1.43 lb/hr PE  
6.26 TPY PE  
0.82 lb/hr PM10  
3.56 TPY PM10

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (1429 lb/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 PM 10 emissions are based on AP-42 Table 11.26-2 (56.8% PM10).

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P033, P034, P035 and P036 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Givau

PTI A

Emissions Unit ID: P034

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P034 - Blending Operation B - Modification	OAC rule 3745-31-05(A)(3)	Particulate emissions* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.33 pound per hour and 1.46 tons per year.
		* PE = PM10
	OAC rule 3745-17-07(A)(1)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-11(B)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
		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**

- 2.a The hourly and annual emission limitations outlined in term A.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.
- 2.b 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. Operational Restrictions**

1. 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.

## **C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## **D. Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

## **E. Testing Requirements**

1. Compliance with the emission limitation in Section A.1 of these terms and conditions

**Givaudan Flavors Corp**  
**PTI Application: 11-05520**  
**Modif**

**Facility ID: 143107091**

**Emissions Unit ID: P034**

shall be determined in accordance with the following method(s):

a. Emission Limitation:

0.33 lb/hr PE/PM10

1.46 TPY PE/PM10

**Givau****PTI A**Emissions Unit ID: **P034****Modification Issued: 6/6/2006**

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (333 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.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P033, P034, P035 and P036 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Givau

PTI A

Emissions Unit ID: P035

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P035 - Blending Operation C - Modification	OAC rule 3745-31-05(A)(3)	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 spray dryer shall not exceed 0.30 pound per hour and 1.33 tons per year.
		The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	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).

74

**Givau**

**PTI A**

**Modification Issued: 6/6/2006**

Emissions Unit ID: **P035**

**Modification Issued: 6/6/2006****2. Additional Terms and Conditions**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** 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. Operational Restrictions**

- 1. 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.

**C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

**D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
- 2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

**E. Testing Requirements**

**Givaudan Flavors Corp**  
**PTI Application: 11-05520**  
**Modif**

**Facility ID: 143107091**

**Emissions Unit ID: P035**

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

**Givau  
PTI A**

Emissions Unit ID: **P035**

**Modification Issued: 6/6/2006**

a. Emission Limitation:

0.53 lb/hr PE  
2.34 TPY PE  
0.30 lb/hr PM10  
1.33 TPY PM10

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (533 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 PM 10 emissions are based on AP-42 Table 11.26-2 (56.8% PM10).

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P033, P034, P035 and P036 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Givau

PTI A

Emissions Unit ID: P036

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P036 - Blending Operation D - Modification	OAC rule 3745-31-05(A)(3)	<p>Particulate emissions* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 1.17 pounds per hour and 5.11 tons per year.</p> <p>* PE = PM10</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).</p>
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	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**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** 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. Operational Restrictions**

- 1. 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.

## **C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## **D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
- 2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

## **E. Testing Requirements**

- 1. Compliance with the emission limitation in Section A.1 of these terms and conditions

**Givau**

**PTI A**

Emissions Unit ID: **P036**

**Modification Issued: 6/6/2006**

shall be determined in accordance with the following method(s):

a. Emission Limitation:

1.17 lbs/hr PE/PM10

5.11 TPY PE/PM10

**Givau****PTI A**Emissions Unit ID: **P036****Modification Issued: 6/6/2006**

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by multiplying the production rate (1167 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.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P033, P034, P035 and P036 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.

Givau

PTI A

Emissions Unit ID: P037

Modification Issued: 6/6/2006

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P037 - Blending Operation E - Modification	OAC rule 3745-31-05(A)(3)	Particulate emissions* (PE) and particulate matter emissions ten microns and less in diameter (PM10) from the spray dryer shall not exceed 0.29 pound per hour and 1.27 tons per year.
		* PE = PM10
	OAC rule 3745-17-07(A)(1)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1).
	OAC rule 3745-17-11(B)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
		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**

- 2.a** The hourly and annual emission limitations outlined in term A.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.
- 2.b** 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. 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.

## **C. Monitoring and/or Recordkeeping Requirements**

- 1. The permittee shall properly operate and maintain equipment to continuously monitor the scrubber water flow rate for the packed bed scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

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

- a. The scrubber water flow rate, in gallons per minute, once each day.
- b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.

## **D. Reporting Requirements**

- 1. The permittee shall submit deviation (excursion) reports that identify all days during which the scrubber flow rate for the packed bed scrubber was not maintained at the required levels outlined in term B.1.
- 2. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

## **E. Testing Requirements**

- 1. Compliance with the emission limitation in Section A.1 of these terms and conditions

**Givau**

**PTI A**

Emissions Unit ID: **P037**

**Modification Issued: 6/6/2006**

shall be determined in accordance with the following method(s):

a. Emission Limitation:

0.29 lb/hr PE/PM10

1.27 TPY PE/PM10

**Givau****PTI A**Emissions Unit ID: **P037****Modification Issued: 6/6/2006**

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.

2. Compliance with the visible particulate emission limitation established in OAC rule 3745-17-07(A)(1) stated in term A.1 shall be determined by the methods specified in 40 CFR Part 60 Appendix A, Method 9.

**F. Miscellaneous Requirements**

1. Since emissions units P032 and P037 have a combined stack, the allowable emission rates during performance tests will be determined by adding together the hourly allowable emission rates for the above mentioned emission units.
2. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.
3. The terms and conditions of this permit to install shall supercede the terms and conditions of Permit to Install 14-05539 issued on August 30, 2004.