State of Ohio Environmental Protection Agency

RE: FINAL PERMIT TO INSTALL **CERTIFIED MAIL**
CUYAHOGA COUNTY

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: 13-04497
Fac ID: 1318172081
DATE: 5/17/2005

Research Organics, Inc.
Michael McCormick
4353 East 49th Street
Cuyahoga Heights, OH 44125

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

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

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

Environmental Review Appeals Commission
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 **CLAA**

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install		**Issue Date:**	**5/17/2005**
Terms and Conditions		**Effective Date:**	**5/17/2005**

FINAL PERMIT TO INSTALL 13-04497

Application Number:	13-04497
Facility ID:	1318172081
Permit Fee:	**$500**
Name of Facility:	Research Organics, Inc.
Person to Contact:	Michael McCormick
Address:	4353 East 49th Street Cuyahoga Heights, OH 44125

Location of proposed air contaminant source(s) [emissions unit(s)]:
4353 East 49th Street
Cuyahoga Heights, **Ohio**

Description of proposed emissions unit(s):
200 gallon reactor (hot oil system), hot oil unit, crystallizer, and filter press -- P023.

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Joseph P. Koncelik

Director

Part I - GENERAL TERMS AND CONDITIONS

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, 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 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 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

Pollutant	Tons Per Year
OC	0.035
*Single HAP	9.9
*Combined HAP	24.9

***Total for all emissions units at this facility.**

Emissions Unit ID: **P048**

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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P048 - Reactor No. 23 Process Line - 200 gallon reactor, hot oil unit, crystallizer, and filter press controlled by a scrubber	OAC rule 3745-31-05(A)(3)	0.0081 lb/hr and 0.035 tons/yr Organic Compound (OC) emissions. The requirements of this rule include compliance with the requirements of OAC rule 3745-31-05(D).
	OAC rule 3745-21-07(G)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(D) Synthetic minor to avoid Title V and MACT	See A.2.a below.

2. Additional Terms and Conditions

2.a The total allowable usage and emissions of Hazardous Air Pollutants (HAPs), as identified in Section 112(b) of Title III of the Clean Air Act, from emissions units at this facility shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation.

2.b The current list of emissions units at this facility are P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P016, P017, P019, P024, P026, P028, P029, P030, P033, P034,

P035, P036, P037, P038, P039, P040, P041, P042, P043, P044, P047, P048, P049, P050, P051, T001, T002, T003, T004, T005, T006, T010, T011, T013, B001, B002, F001, Z001, and Z002.

B. Operational Restrictions

1. The scrubber No. 2 shall be operating at all times while the emissions unit is in operation.

2. The permittee shall operate scrubber No. 2 with the following restrictions:

a. The scrubber flow rate in Tower No. 1 shall be continuously maintained at a value of not less than 120 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.5 gallons per minute.
b. The scrubber flow rate in Tower No. 2 shall be continuously maintained at a value of not less than 77 gallons per minute at all times while the emissions unit is in operation. This will be obtained by having the recirculation valve completely opened and supplying fresh makeup water at value not less than 1.0 gallons per minute.
c. The pressure drop across Tower No. 1 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation.
d. The pressure drop across Tower No. 2 shall be continuously maintained at a value of not less than 0.5 inches of water at all times while the emissions unit is in operation.
e. The pH of the scrubber liquor in Tower No. 1 of the scrubber shall be maintained at or above 6.0.
f. The temperature of the scrubber liquor for Tower No. 1 shall be continuously maintained at a value not more 95 degrees Fahrenheit.
g. The temperature of the scrubber liquor for Tower No. 2 shall be continuously maintained at a value not more 90 degrees Fahrenheit.

3. The maximum annual HAPs material usage for the list of emissions units referenced in A.2.b shall not exceed 9.9 tons/year for any individual HAP and 24.9 tons/year for any combination of HAPs, based upon a rolling, 12-month summation.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the HAP usage levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Individual HAPs Material Usage for the list of emissions units referenced in A.2.b

		Maximum Allowable Cumulative Combined HAPs Material Usage for the list of emissions units referenced in A.2.b
1	2.0 tons	6.0 tons
1-2	3.0 tons	8.0 tons
1-3	4.0 tons	10.0 tons
1-4	5.0 tons	12.0 tons
1-5	6.0 tons	14.0 tons
1-6	7.0 tons	16.0 tons
1-7	7.5 tons	18.0 tons
1-8	8.0 tons	20.0 tons
1-9	8.5 tons	22.0 tons
1-10	9.0 tons	23.0 tons
1-11	9.5 tons	24.0 tons
1-12	9.9 tons	24.9 tons

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual HAP material usage limitation shall be based upon a rolling, 12-month summation of the HAP material usage figures.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor the scrubber's static pressure drops across each of its two towers, the scrubber's water flow rates in each of its two towers and the scrubber's liquor temperatures in each of the its two towers while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, 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:

h. The scrubber water flow rate from Tower No. 1, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording the flow rate of the makeup water.

i. The scrubber water flow rate from Tower No. 2, in gallons per minute, on once/shift basis. This shall be accomplished by visually inspecting the recirculation valve (visual inspections shall be done on once/day, 5 days/week basis, exceptions are made for holidays) and recording flow rate of the makeup water.

j. The pressure drop across Tower No. 1 on the scrubber, in inches of water, on once/shift

basis.

k. The pressure drop across Tower No. 2 on the scrubber, in inches of water, on once/shift basis.

l. The temperature of the scrubber liquor in Tower No. 1, in Fahrenheit, on once/shift basis.

m. The temperature of the scrubber liquor in Tower No. 2, in Fahrenheit, on once/shift basis.

n. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

2. The permittee shall properly install, operate and maintain equipment to continuously monitor the pH scrubber liquor from scrubber No. 2 (Tower No. 1) while the emissions unit is in operation. The pH monitor and recorder shall be installed, 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 pH of the scrubber liquor, on once/shift basis; and
   b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

3. The permittee shall collect and record the following information each month for process line P047:

   a. the name and identification of each product;
   b. number of batches;
   c. the calculated amount of OC emissions for the month using the formula provided in section E.1.b; and
   d. the calculated rolling, 12-month OC emissions for the previous 12 months.

4. The permittee shall collect and record the following information each month on a facility-wide basis, for emissions units referenced in A.2.b:

   a. The total individual and combined HAPs material usage and emissions, in pounds per month; and

   b. Beginning after the first 12 calendar months of operation following issuance of this permit, the rolling, 12-month summation of individual HAPs and combined HAPs material usage and emissions, in tons

      Also, during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative HAP usage and emissions rate for each calendar

month.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the annual emission limitation for OC. This written report shall be submitted to the Cleveland Division of Air Quality within 30 days of the occurrence of the deviation.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:

   a. the static pressure drop across Tower No. 1;

   b. the static pressure drop across Tower No. 2;

   c. the scrubber water flow rate in Tower No. 1;

   d. the scrubber water flow rate in Tower No. 2; and

   e. the scrubber liquor pH in Tower No. 1.

   This written report shall be submitted to the Cleveland Division of Air Quality (CDAQ).

3. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or below the required levels:

   a. the scrubber liquor temperature in Tower No. 1; and

   b. the scrubber liquor temperature in Tower No. 2.

   This written report shall be submitted to the Cleveland Division of Air Quality.

4. The permittee shall submit deviation (excursion) reports which include the following information for the list of emissions units referenced in A.2.b:

   a. An identification of each month during which the rolling, 12-month individual HAP material usage and emissions exceed 9.9 tons/year based on a rolling, 12-month summation, and the actual rolling, 12-month individual HAP emissions for each such month;

b. An identification of each month during which the rolling, 12-month combined HAP material usage and emissions exceeds 24.9 tons/year based on a rolling, 12-month summation, and the actual rolling, 12-month combined HAP emissions for each such month;

And, for the first 12 calendar months of operation following the issuance of this permit, reports shall be submitted identifying all exceedances of the maximum allowable cumulative HAP usage and emissions rate.

This written report shall be submitted to the Cleveland Division of Air Quality within 30 days of the occurrence of the deviation.

E. Testing Requirements

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

a. Emission Limitation:
0.0081 lb/hr OC emissions

Applicable Compliance Method -

If required, compliance with the OC emission limitation shall be determined through emission testing conducted in accordance with Method 25 or 25A of 40 CFR Part 60, Appendix A, or any approved alternative testing method.

b. Emission Limitation:
0.035 tpy OC emissions, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method -

Compliance shall be based on recordkeeping in section C.3, emission factors developed by the company and the following equation:

1.48 lbs OC emissions/batch(emission factor(s)) x number of batches/month x (1 - scrubber control efficiency of 87.4%) = lbs OC emissions/month

Apply the above equation to each product and then sum the emissions to obtain a total of

monthly emissions (total lbs OC emissions/month). Sum the total monthly emissions (total lbs OC emissions/month) to obtain a rolling, 12-month summation. After the first twelve (12) months, each new month constitute a new 12-month summation. Divide the rolling 12-month summation by 2000 lbs.

The emission factors were obtained from technical literature pertaining to batch process operations, and through engineering analysis of the process. The primary source of technical reference was Table A-6 known as "Average Emission Factors for Fugitive Emissions in SOCMI, source from EPA-953/R93-026" published in a book entitled, "Control of Volatile Organic Compound Emissions from Batch Processes - alternative control techniques information document (EPA-450/R-94-020)."

c. Emission Limitation:
9.9 tons individual HAPs/year for the list of emissions units in A.2.b as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in Section C.

d. Emission Limitation:
24.9 tons combined HAPs/year for the list of emissions units in A.2.b as a 12-month rolling summation.

Applicable Compliance Method:
Compliance shall be determined based upon the record keeping specified in Section C.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

2. The following terms are federally enforceable: A., B., C. and D.

3. A FESOP for the facility will be processed at a later date.