



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov.
Center

RE: **FINAL PERMIT TO INSTALL MODIFICATION** CERTIFIED MAIL
MIAMI COUNTY
Application No: 08-03642

DATE: 3/10/2005

DAP Inc
Tom Devault
2400 Boston St Ste 200
Baltimore, MD 212240000

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,

A handwritten signature in cursive script that reads "Michael W. Ahern".

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

CC: USEPA

RAPCA



**Permit To Install
Terms and Conditions**

**Issue Date: 3/10/2005
Effective Date: 3/10/2005**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 08-03642

Application Number: **08-03642**
APS Premise Number: **0855130356**
Permit Fee: **\$400**
Name of Facility: **DAP Inc**
Person to Contact: **Tom Devault**
Address: **2400 Boston St Ste 200
Baltimore, MD 212240000**

Location of proposed air contaminant source(s) [emissions unit(s)]:
**875 N Third St
Tipp City, OHIO**

Description of modification:
change method of compliance demonstration for adhesive mixers.

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

DAP Inc

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GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. 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.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCES

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.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

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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.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

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.

SOURCE OPERATION AND OPERATING PERMIT REQUIREMENTS AFTER COMPLETION OF CONSTRUCTION

If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. 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 source(s) covered by this permit.

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
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AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **DAP Inc** located in **MIAMI** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

<u>Ohio EPA Source Number</u>	<u>Source Identification Description</u>	<u>BAT Determination</u>
P022	Contact Cement Mixer #2 (CCM2)	
T027	12,000 Gal Toluene AST	*
T028	12,000 Gal Hexane AST	*
T029	12,000 Gal Hexane AST	*
P020	Mastics Mixer #1 (MM1)	**
P021	Mastics Mixer #2 (MM2)	**
P021	Contact Cement Mixer #1 (CCM1)	**

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<u>Ohio EPA Source Number</u>	<u>Source Identification Number</u>	<u>BAT Determination</u>	<u>Applicable Federal & OAC Rules</u>	<u>Permit Allowable Mass Emissions and/or Control/Usage Requirements</u>
		3745-31-05 (A)(3)		30.4 lbs/ day, 1.69 TPY OC
	* * Applicable Federal & OAC Rules		Permit Allowable Mass Emissions and/or Control/Usage Requirements	
	3745-31-05 *3745-21-07 *(D)(2) *40 CFR Part 60 Subpart Kb		Submerged fill <1.0 TPY OC	
	3745-31-05 3745-21-07 (D)(2) 40 CFR Part 60 Subpart Kb		Submerged fill <1.0 TPY OC	
	3745-31-05 3745-21-07 (D)(2) 40 CFR Part 60 Subpart Kb		Submerged fill <1.0 TPY OC	
	3745-31-05 (A)(3)		38.09 lbs/ day, 2.87 TPY OC	
	3745-31-05 (A)(3)		38.09 lbs/ day, 2.87 TPY OC	
	3745-31-05 (A)(3)		30.4 lbs/ day, 1.69 TPY OC	

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- * BAT is in compliance with applicable federal and OAC rules; submerged fill; recordkeeping.
- ** BAT is determined to be use of a chilled water condenser and compliance with applicable OAC rules and specified allowable emission limits; recordkeeping; excursion reporting.
- *** BAT is determined to be use of a chilled water primary condenser when processing non-methylene chloride formulations, and compliance with applicable OAC rules and specified allowable emission limits; recordkeeping; excursion reporting.. When processing methylene chloride formulations BAT shall also include the use of a chilled glycol secondary condenser and activated carbon canister as tertiary control

**SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons/Year</u>
Organic Compounds	12.12

NSPS REQUIREMENTS

The following sources are subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

<u>Source Number</u>	<u>Source Description</u>	<u>NSPS Regulation (Subpart)</u>
T027	12,000 gallon	Kb
T028	12,000 gallon	Kb
T029	12,000 gallon	Kb

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

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Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

- a. construction date (no later than 30 days after such date);
- b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
- c. actual start-up date (within 15 days after such date); and
- d. date of performance testing (If required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Air Quality Modeling and Planning
P.O. Box 1049
Columbus, OH 43216-1049

and Regional Air Pollution Control
117 South Main Street
Dayton, Ohio 45422

RECORD(S) RETENTION AND AVAILABILITY

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Regional Air Pollution Control**, 117 South Main Street, Dayton, Ohio 45422.

WASTE DISPOSAL

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

MAINTENANCE OF EQUIPMENT

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

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AIR POLLUTION NUISANCES PROHIBITED

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

DAP IncFacility ID: **0855130356****PTI Application: 08-03642****Modification Issued: 3/10/2005****NEW SOURCE PERFORMANCE STANDARD SUBPART Kb**

The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

In accordance with 40 CFR 60.116b(a) and (b), the owner and operator of the following storage vessel(s) shall keep readily accessible records showing the dimension of each storage vessel and an analysis showing the capacity of each storage vessel for the life of each source.

<u>Source Number(s)</u>	<u>Tank Size</u>
T027	12,000 gallon
T028	12,000 gallon
T029	12,000 gallon

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.

ADDITIONAL SPECIAL TERMS AND CONDITIONS

1. As Required by OAC 3745-21-07 (D)(2), all tanks T027-T029 shall be equipped with a permanent submerged fill pipe, installed within six (6) inches of the bottom of the storage tanks, as defined by OAC rule 3745-21-01 (C)(6).
2. The permittee shall maintain daily records of all mastics and contact cements produced in each emissions unit (P020-P023), in pounds.
3. The permittee shall submit annual reports to the Director (RAPCA) that summarize actual annual OC emissions from the emissions units included in this PTI. These reports shall be submitted by January 31 of each year and shall cover the previous calendar year.
4. For any three hour block of time while mastics or contact cements are being processed the average

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temperature of the exhaust gases from the condensers for:

- a. Emissions Units P020 and P021 (mastic mixers MM1 and MM2) shall not exceed 62°F.
 - b. Emissions unit P022 (contact cement mixer CCM1, that does not process methylene chloride formulations) shall not exceed 57°F.
 - c. Emissions unit P023 (contact cement mixer CCM2, that processes methylene chloride formulations) shall not exceed 57°F from the primary condenser and while processing methylene chloride formulations shall not exceed 23°F from the secondary condenser.
5. The permittee shall not process methylene chloride formulations in emissions units P020, P021 and P022.
6. The permittee shall install and operate a new 180 lb activated carbon canister for tertiary air emissions control prior to processing each batch of methylene chloride formulations in emissions unit P023.
7. The permittee shall collect and record the following information on a daily basis for emissions units P020, P021, P022 and P023:
- a. The company identification for each batch of product mixed.
 - b. The volume, in gallons, of each batch mixed
 - c. The calculated vapor pressure of the material produced in each batch (psia).
 - d. The calculated vapor molecular weight of the material produced in each batch (lb/lb-mole).
 - e. The average temperature of the mixer when in operation (^o R).
 - f. The Batch time (hours/batch).
 - g. The open area of the mixer (square feet).
 - h. The partial pressure of each VOC in each mixer head space (psia).
 - i. The calculated gas vapor pressure in each mixer (psia).
 - j. The average initial and final gas temperatures (^o R).
 - k. The determination of the displacement, evaporation, and heat up OC losses mixed/stored in the mixer for each batch, in pounds, in accordance with the formulas and assumptions given in the " U.S. EPA Emission Inventory Improvement Program Volume II: Chapter 8, Preferred and Alternative Methods for Estimating Air Emissions from Paint and Ink Manufacturing Facilities", updated March 2002.
 - l. The total calculated before control OC emission rate for this emissions unit (the sum of the displacement evaporation, and heat up OC losses for each batch), in pounds.
 - m. The total calculated controlled OC emission rate for this emissions unit, in pounds (the value in (l) multiplied by one minus a control efficiency of:
 - i. 82% for emissions units P020 and P021 (MM1 and MM2) per the condenser design

evaluation conducted according to equations in 40 CFR 63.1257(d) ($1 \times (1-0.82)$).

- ii. 76% for emissions unit P022 (CCM1) per the condenser design evaluation conducted according to equations in 40 CFR 63.1257(d) ($1 \times (1-0.76)$).
 - iii. 99% for emissions unit P023 (CCM2) per the condenser design evaluation conducted according to equations in 40 CFR 63.1257(d) and a removal efficiency of 18 pounds of methylene chloride per 180 pounds of activated carbon as specified by the activated carbon manufacturer ($1 \times (1-0.99)$).
- n. Documentation on whether or not the products mixed in this emissions unit contain methylene chloride.
- o. The identification number of each new carbon canister that is installed prior to processing each batch of methylene chloride formulations in emissions unit P023.

$$\text{Displacement loss (lbs/batch)} = (0.01246) \times (S) \times (P) \times (MW) \times (Q) / (T)$$

Where:

P = vapor pressure of material loaded (psia)

S = 1.0, on the basis that the vapor space is saturated with vapors, submerged fill

MW = vapor molecular weight (lb/lb-mole)

Q = volume of material loaded (gallons)

T = temperature (degrees R)

$$\text{Evaporation loss (lbs/batch)} = (MW) \times (K) \times (A) \times (P) \times (3600) / (R) \times (T)$$

Where:

$$K = (0.00438) \times (U^{0.78}) \times [(18/MW)^{0.33}]$$

U = 0.1 mile per hour, from USEPA's example for indoor equipment

H = batch time (hours/batch)

R = universal gas constant, [(10.73 psia)(ft³)/(lb/mole)(degrees R)]

A = open area of tank (ft²)

$$\text{Heat up loss (lbs/batch)} = [(P \times T1 / 14.7 - P \times T1) + (P \times T2 / 14.7 - P \times T2)] \times (0.5) \times (n) \times (MW)$$

Where:

n = lb-moles of gas displaced, [(V/R) × (Pa1/T1 - Pa2/T2)]

PxT1 = partial pressure of each VOC in vessel head space at initial gas temperature (psia)

PxT2 = partial pressure of each VOC in vessel head space at final gas temperature (psia)

V = vessel head space (ft³)

Pa1 = initial gas pressure in vessel (psia), calculated as (14.7 - PxT1)

Pa2 = Final gas pressure in vessel (psia), calculated as (14.7 - PxT2)

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T1 = initial gas temperature (degrees R)

T2 = final gas temperature (degrees R)

8. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the temperature of the exhaust gases immediately following the exit point of each condenser chiller when emissions units P020, P021, P022, and P023 are in operation. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.
9. The permittee shall collect and record the following information each day for emissions unit P020, P021, P022 and P023:
 - a. The average temperature of the exhaust gases immediately following the exit point of the condenser chiller during each of the 8 3-hour blocks of time during the 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.
10. In accordance with the General Terms and Conditions, the permittee shall submit quarterly deviation (excursion reports which include the following information):
 - a. An identification of each day during which the organic compound emissions from the mixing of materials in emissions units P020 and P021 exceeded 38.09 pounds per day, P022 and P023 exceeded 30.4 pounds per day and the actual organic compound emissions for each such day.
 - b. An identification of all 3-hour blocks of time during which the average temperature of the exhaust gases from the condensers for emissions units P020, P021, P022 and P023 exceeded the limitations specified above.
 - c. An identification of each day during which methylene chloride was processed in emissions units P020, P021 and P022.
11. The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control device, and monitoring equipment when emissions units P020, P021, P022 and P023 were in operation.
12. Compliance with the daily and annual emissions limits for emissions units P020, P021, P022 and P023 shall be based on the record keeping requirements specified in additional term and condition No. 7 and

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shall be the sum of the emissions, in pounds per day and tons per year, for each batch processed on a daily and annual basis.

13. Requirements were included in the Final Title V Operating Permit issued February 5, 2003 establishing synthetic minor area source status for the facility to exempt the facility from compliance with the control requirements of 40 CFR part 63, Subpart HHHHH. The final Title V Operating Permit for the facility contains rolling 12-month monitoring, record keeping, and reporting requirements to document that actual HAP emissions from the facility are less than 9.9 tons per year for any individual HAP and less than 24.9 tons per year for combined HAPs. If actual HAP emissions exceed 9.9 tons per year for any individual HAP and/or 24.9 tons per year for combined HAPs over any 12-month rolling period the facility shall become subject to the requirements of 40 CFR Part 63, Subpart HHHHH and the permittee shall submit an Initial Notification Report which certifies whether or not the permittee is subject to the promulgated standard. If the permittee becomes subject to the standard, the following information shall be included in the Initial Notification Report:

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- a. The name and mailing address of the permittee;
- b. The physical location of the source if it is different from the mailing address;
- c. Identification of the relevant MACT standard and the permittee's compliance date;
- d. A brief description of the nature, design, size, and method of operation of the source, including the operating design capacity, and an identification of each emission point of each hazardous air pollutant;
- e. A statement of whether or not the permittee is a major source or an area source according to the promulgated MACT.