

PERMIT BOOK

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 072011-002

Project Number: 2011-05-047
Installation Number: 077-0051

Parent Company: 3M Company

Parent Company Address: 3M Center, Building 0224-05-W-03, Saint Paul, MN 55144

Installation Name: 3M Springfield

Installation Address: 3211 East Chestnut Expressway, Springfield, MO 65802

Location Information: Greene County, S16, T29N, R21W

Application for Authority to Construct was made for:

Installation of four filling/packaging lines (EU0360, EU0370, EU0380 and EU0390). This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JUL 7 2011

EFFECTIVE DATE



DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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Project No.	2011-05-047

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

.The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

3M Springfield
Greene County, S16, T29N, R21W

1. Hazardous Air Pollutant (HAP) Emission Limitation
 - A. 3M Springfield shall emit less than 9.9 tons individually or 24.9 tons combined of Hazardous Air Pollutants (HAPs) in any consecutive 12-month period from the entire installation. This limit applies to the HAP emissions from all equipment/ processes installed or permitted at 3M Springfield as of the issuance date of this permit.
 - B. Attachment A, Attachment B and Attachment C of this permit, Attachment A1, Attachment A2, Attachment A3, Attachment A4 and Attachment A5 from Operating Permit No. OP2006-056 or equivalent forms, such as electronic forms or equivalent attachments in future operating permit renewals approved by the Air Pollution Control Program, shall be used to demonstrate compliance with Special Conditions 1.A.
2. Record Keeping and Reporting Requirements
 - A. 3M Springfield shall maintain all records required by this permit for not

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Project No.	2011-05-047

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used with the new equipment.

- B. 3M Springfield shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2011-05-047
Installation ID Number: 077-0051
Permit Number:

3M Springfield
3211 East Chestnut Expressway
Springfield, MO 65802

Complete: May 18, 2011

Parent Company:
3M Company
3M Center, Building 0224-05-W-03
Saint Paul, MN 55144

Greene County, S16, T29N, R21W

REVIEW SUMMARY

- 3M Springfield has applied for authority to install four filling and packaging lines (EU0360, EU0370, EU0380 and EU0390).
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are toluene, n-hexane and methyl isobutyl ketone.
- None of the New Source Performance Standards (NSPS) apply to the new equipment.
- None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of volatile organic compounds (VOCs) are below de minimis levels and potential emissions of HAPs are below major source levels. Installation-wide HAP emissions have been conditioned to below major source levels.
- This installation is located in Greene County, an attainment area for all other criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.

- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the equipment associated with this permit.
- An amendment to your Intermediate Operating Permit application is required for this installation within 90 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The 3M Springfield plant manufactures adhesives, sealants, coating and coated products. Raw materials are shipped to the plant by truck and rail car. They are stored in the warehouse or in bulk tanks. Raw materials are mixed and, in some cases, reacted in process vessels. Further processing includes coating applications, extruding, milling, additional mixing and slitting. Two boilers and a thermal oxidizer are also operated on site.

3M Springfield was issued an Intermediate Operating Permit (Permit No. OP2006-056) on August 11, 2006. In this operating permit, 3M Springfield took a 9.9 individual and 24.9 combined HAP limit. The Statement of Basis included in OP2006-056 contains a complete list of all 3M Springfield's construction permits issued by the Air Pollution Control Program and by the Springfield Air Pollution Control Authority.

PROJECT DESCRIPTION

3M Springfield is seeking authority to install four filling and packaging lines at their facility.

- ♦ EU0360: CRT-5 Semiautomatic Filling Line (003-360)
- ♦ EU0370: CRT-7 Semiautomatic Filling Line (011-370)
- ♦ EU0380: PASE Semiautomatic Two Head Filling Line (011-380)
- ♦ EU0390: Manual Pour Filling Line (011-390)

Input materials consist of a variety of adhesives, caulks and sealants. This operation is currently outsourced, but is being transferred to the Springfield facility. This project is not expected to decouple any operations or add capacity to existing equipment. Therefore, the only emission increase is from the addition of the four new lines.

Generally, the new lines will operate in the following manner. Input material will be delivered via pails, drums and totes and dispensed into the desired containers ranging in size from approximately 1 ounce to 5 gallons. The filled containers will then be labeled and packaged for delivery to customers. There are no emission controls being installed with the new equipment.

Although VOC and HAP emissions are below de minimis levels for the project, the individual HAP emissions for the project exceed 0.5 pounds per hour exemption as allowed in 10 CSR 10-6.061(3)(A)3.B. Therefore, a permit is required for this project.

3M Springfield has requested confidentiality as allowed per 10 CSR 10-6.210 with regards to process flow diagram, process rates, emission factors and material safety data sheets (MSDS) due to the proprietary nature of the information. This information can only be obtained with written permission from 3M Springfield.

EMISSIONS/CONTROLS EVALUATION

The project's potential emissions are primarily VOCs and HAPs. The air emissions are a result of air displacement that occur during filling operations. Emission factor data was calculated using the Emission Master® program, which calculates emission for batch and continuous processes using one or more computerized Environmental Protection Agency (EPA) models.

The following table provides an emissions summary for this project. Existing actual emissions were taken from the installation's 2009 Emission Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of the new paint booth and related solvent usage as described above: All potential emissions assume continuous operation (8,760 hours per year).

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Actual Emissions (2010 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM _{2.5}	10.0	0.49	N/A	N/A
PM ₁₀	15.0	1.65	N/A	N/A
SO _x	40.0	0.05	N/A	N/A
NO _x	40.0	6.73	N/A	N/A
VOC	40.0	20.85	6.85	N/A
CO	100.0	5.52	N/A	N/A
HAPs	10.0/25.0	N/D	6.48	<10.0/25.0
Toluene	10.0	N/D	1.73	N/A
Hexane	10.0	N/D	2.36	N/A
Methyl Isobutyl Ketone	10.0	N/D	2.39	N/A

N/A = Not Applicable; N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of volatile

organic compounds (VOCs) are below de minimis levels and potential emissions of HAPs are below major source levels. Installation-wide HAP emissions have been conditioned to below major source levels.

APPLICABLE REQUIREMENTS

3M Springfield shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110*
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *Operating Permits, 10 CSR 10-6.065*
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin, 10 CSR 10-6.170*
- *Restriction of Emission of Visible Air Contaminants, 10 CSR 10-6.220*
- *Restriction of Emission of Odors, 10 CSR 10-6.165*

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Susan Heckenkamp
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 16, 2011, received May 18, 2011, designating 3M Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment B - Monthly Individual HAP Emissions from All Sources

3M Springfield
 Greene County, S16, T29N, R21W
 Project Number: 2011-05-047
 Installation ID Number: 077-0051
 Permit Number:

HAP Name: _____ CAS No.: _____.

This sheet covers the month of _____ in the year _____.

Copy this sheet as needed.

Column 1	Column 2 (b)
Subtotal of This HAP Emitted from Coating Operations ²	
Subtotal of This HAP Emitted This Month from Tanks ³	
Subtotal of This HAP Emitted This Month from Compounding ⁴	
Subtotal of This HAP Emitted This Month from Filling Operating ⁵	
Subtotal of This Emitted this Month from Any Other Source ⁶	
Total of This HAP Emissions Calculated for this Month, in Tons ⁷	
Running 12-month Total of This HAP Emissions in Tons ⁸	

INSTRUCTIONS:

- 1 Duplicate and fill out this form each month for each HAP emitted;
- 2 Take this amount from Attachment A1 of OP2006-056 for this month and year, in Tons;
- 3 Take this amount from Attachment A2 of OP2006-056 for this month and year, in Tons;
- 4 Take this amount from Attachment A3 of OP2006-056 for this month and year, in Tons;
- 5 Take this amount from Attachment A of this permit for this month and year, in Tons;
- 6 If there are any other sources of this HAP for this month and year at the installation, enter the subtotal emitted here, and maintain documentation verifying the amount.
- 7 Summation of [Column 2], in Tons;
- 8 Sum the Total This HAP Emissions Calculated for the Month, the total line above, plus the Totals from the previous 11 months' Attachment Bs for this HAP to obtain this running 12-month total.

A 12-Month individual HAP emission total of less than 9.9 tons for the installation indicates compliance.

Ms. Megan Acker
Environmental Scientist
3M Springfield
3M Center, Building 0224-05-W-03
Saint Paul, MN 55144-1000

RE: New Source Review Permit - Project Number: 2011-05-047

Dear Ms. Acker:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Susan Heckenkamp, at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:smh

Enclosures

c: Southwest Regional Office
PAMS File: 2011-05-047

Permit Number: