



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: 072011-015 Project Number: 2011-07-059
Installation Number: 183-0029

Parent Company: Reckitt Benckiser

Parent Company Address: 30 Arrowhead Industrial Blvd., St. Peters, MO 63376

Installation Name: Reckitt Benckiser

Installation Address: 30 Arrowhead Industrial Blvd., St. Peters, MO 63376

Location Information: St. Charles County, S23, T47N, R3W

Application for Authority to Construct was made for:
The addition of a new product formulation and packaging to an existing production line.
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 29 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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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."

Reckitt Benckiser
St. Charles County, S23, T47N, R3W

1. Performance Testing
 - A. Reckitt Benckiser shall perform stack testing on EP-33, EP-34, and EP-35 during the production of Lysol Brand Concentrate to confirm the volatile organic compounds (VOC) and hazardous air pollutants (HAPs) emission rates found in the table below. The stack test shall be run during the entire batch cycle of the Lysol Brand Concentrate product. Reckitt Benckiser shall perform the stack testing according to 10 CSR 10-6.030 Sampling Methods for Air Pollution Sources.

Table 1: Total Combined Emission Rate for EP-33, EP-34, and EP-35

Pollutant	Emission Rate (lb/hr)
VOC	3.454
m – Cresol (HAP)	0.158
p – Cresol (HAP)	0.0789

- B. These tests shall be performed within 90 days after achieving the maximum production rate of the installation, but not later than 180 days after initial start-up for commercial operation and shall be conducted in accordance with the Stack Test Procedures outlined in Special Condition 1.A
- C. A completed Proposed Test Plan Form (enclosed) must be submitted to the Air Pollution Control Program 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Director prior to conducting the required emission testing.
- D. Two copies of a written report of the performance test results shall be submitted to the Director within 30 days of completion of any required

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SPECIAL CONDITIONS:

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

testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run.

- E. The test report is to fully account for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations
 - F. If the results of the performance testing shows that the combined emission rate for any of the pollutants is greater than that indicated in Table 1, then Reckitt Benckiser shall submit an amendment to this permit with an evaluation of what effects the higher emission rate would have had on the permit review for this project. Reckitt Benckiser shall submit the results of any such evaluation within 30 days of submitting the Performance Test Results report required in Special Condition 1.E. of this permit.
2. Record Keeping and Reporting Requirements
- A. Reckitt Benckiser shall maintain all records required by this permit for not 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

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

Project Number: 2011-07-059
Installation ID Number: 183-0029
Permit Number:

Reckitt Benckiser
30 Arrowhead Industrial Blvd.
St. Peters, MO 63376

Complete: July 25, 2011

Parent Company:
Reckitt Benckiser
30 Arrowhead Industrial Blvd.
St. Peters, MO 63376

St. Charles County, S23, T47N, R3W

REVIEW SUMMARY

- Reckitt Benckiser has applied for authority for the addition of a new product formulation and packaging to an existing production line.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are m-Cresol and p-Cresol.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. 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 all pollutants are below de minimis levels.
- This installation is located in St. Charles County, a nonattainment area for the 8-hour ozone standard and the PM_{2.5} standard and 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 applicability threshold is 250 tons per year and fugitive emissions are not counted toward major source permit applicability.

- Ambient air quality modeling was not performed since estimated potential emissions of the application are estimated to be below de minimis levels.
- Emissions testing are required for the equipment.
- A Basic Operating Permit amendment is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Reckitt Benckiser, which was formerly known as Reckitt and Coleman and Airwick, produces household cleaning products and air fresheners in St. Peters, Missouri. This installation is an existing minor source of Volatile Organic Compounds (VOC) and a de minimis source for all other criteria air pollutants. A Basic Operating Permit (Project Number 2011-01-051) was issued March 18, 2011. The following construction permits have been issued to Reckitt Benckiser from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0896-006	Installation of a 300 hp replacement boiler.
042002-015	Installation of an air freshener line.
092002-021	Detergent Manufacturing
092002-021A	Process Changes

PROJECT DESCRIPTION

Reckitt Benckiser is adding a new product formulation to an existing production line. The new product will be Lysol Brand Concentrate. No new equipment will be installed as a result of the new product. The maximum hourly design rate (MHDR) for the new product is 3251 gallons of the new product per batch with one batch being made every eight hour shift. The ingredients for the Lysol Brand Concentrate can be found in the material safety data sheet provided by Reckitt Benckiser. VOC and HAPs are present within the Lysol Brand Concentrate.

The production of Lysol Brand Concentrate includes emptying drums/totes of ingredients into a 3360 gallon mix tank which is vented to a stack (EP-33) and released into the atmosphere. The vapors from the mix tank loading are controlled by a Fume Arm which is vented to a stack (EP-33) and released into the atmosphere. From the mix tank the product is transferred to a 5400 gallon storage tank. The storage tank will have vent to release the displaced air and will be vented to a stack (EP-35) and subsequently released into the atmosphere at ambient pressure. After each batch, the mix tank is flushed with Clean in Place (CIP) water. That CIP water is collected in totes and sent off to a waste disposal/recovery facility. From the 5400 gallon storage, tank the finished product is transferred to a closed head tank which feeds the fillers to

package the finished product. Both the closed head tank and filling process are within an enclosure that is vented to a stack (EP-34) and subsequently released into the atmosphere at ambient pressure. There is waste generated during the filling process. That waste is collected in a holding tank and eventually put into totes and sent to a waste disposal facility or recovered and put back into the production line.

EMISSIONS/CONTROLS EVALUATION

The potential emissions from the new product were calculated by using a mass balance approach. The ingredients that contain VOC and HAPs include O-Benzyl-P-Chlorophenol, Xylenol (Cresylic Acid), Denatured Alcohol, and Ethanol SDA. According to Reckitt Benckiser the total projected actual product loss, including waste and vaporization, during the process is two percent of the finished product. It was assumed that less than fifty percent of the total product loss will be emitted to atmosphere with the remaining being waste that is collected and is either sent off site for disposal or recovered and put back into the production line. Emission rates were calculated based on the one percent emitted to the atmosphere and used to calculate the potential emissions of the project. Reckitt Benckiser has agreed to perform stack testing to confirm the emission rates of the process. Potential emissions of the application represent the potential of the new product, assuming continuous operation (8760 hours per year.) The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> /SMAL Levels	Existing Potential Emissions	Existing Actual Emissions (2010 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM _{2.5}	10.0	N/A	1.62	N/A	N/A
PM ₁₀	15.0	<15.0	1.62	N/A	<15.0
SO _x	40.0	0.03	N/A	N/A	0.03
NO _x	40.0	7.33	N/A	N/A	7.33
VOC	40.0	66.45	1.54	15.13	81.58
CO	100.0	1.83	N/A	N/A	1.83
HAPs	10.0/25.0	N/A	N/A	1.04	1.04
m - Cresol	1.0	N/A	N/A	0.69	0.69
p - Cresol	1.0	N/A	N/A	0.35	0.35

N/A = Not Applicable

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 all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Reckitt Benckiser 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 April 1 for a hard copy submittal or May 1 for online submittal for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *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.

Gerad Fox
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 21, 2011, received July 25, 2011, designating Reckitt Benckiser as the owner and operator of the installation.

Mr. Matthew Gogna
EHS Manager
Reckitt Benckiser
30 Arrowhead Industrial Blvd.
St. Peters, MO 63376

RE: New Source Review Permit - Project Number: 2011-07-059

Dear Mr. Gogna:

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 Gerad Fox, 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:gfl

Enclosures

c: St. Louis Regional Office
PAMS File: 2011-07-059

Permit Number: