

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: 042009 - 010      Project Number: 2008-08-011

Parent Company:              Carbolytic Materials Company, LLC

Parent Company Address: 926 Ridgepointe Place Circle,  
Lake Saint Louis, MO 63367

Installation Name:              Carbolytic Materials Company - Maryville Plant

Installation Address:              600 Wilson Industrial Road, Maryville, MO 64468

Location Information:              Nodaway County, S16, T64N, R35W

Application for Authority to Construct was made for:

The installation of a tire shreds processing facility. 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.

APR 17 2009

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 this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 this (these) air contaminant source(s).

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 source(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."*

Carbolytic Materials Company - Maryville Plant  
Nodaway County, S16, T64N, R35W

1. Emission Limitation - PM<sub>10</sub>
  - A. Carbolytic Materials Company - Maryville Plant (CMC – Maryville) shall emit less than 15.0 tons of particulate matter less than ten (10) microns in diameter (PM<sub>10</sub>) in any consecutive 12 month period from the emission units listed in Table 2 (EU1-EU16).
  - B. CMC - Maryville shall maintain an accurate record of PM<sub>10</sub> emitted into the atmosphere from EU1-EU16. Attachment A or an equivalent form shall be used for this purpose. The emission factors used in Attachment A for CD1-CD5 shall be determined by performance testing, as detailed in Special Condition 3.
  - C. CMC - Maryville shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition 1.B. indicate that the source exceeds the limitation of Special Condition 1.A.
2. Sulfur Emissions Limit - Non-condensable Vapor Sulfur Content
  - A. CMC - Maryville shall limit the sulfur content of the non-condensable vapor to no more than 3,875 parts per million (ppm) by weight.
  - B. CMC - Maryville shall sample the non-condensable vapor entering the combustion chamber to determine the sulfur content. The sample frequency shall be weekly for the first four (4) weeks and monthly thereafter. Test results must include a sulfur component analysis of all sulfur compounds by weight. The total sulfur content in units of ppm by weight must be determined and recorded on Attachment B or an equivalent form to demonstrate compliance with Special Condition 2. A.

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### SPECIAL CONDITIONS:

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

- C. CMC - Maryville shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition 2.B. indicate that the source exceeds the limitation of Special Condition 2.A.
  - D. Within 90 days after the first 24 months of operation, CMC - Maryville shall submit a sulfur variability analysis and may propose an alternate sampling plan to the Director of the Air Pollution Control Program. The sulfur variability analysis must include copies of the test reports required for Special Condition 2.B. Upon approval by the Director, an alternate sampling plan may be implemented.
3. Stack Testing Requirements
- A. CMC - Maryville shall conduct initial stack testing on the bin vents and dust collectors (CD1-CD4) and the combustion chamber (CD5). The following process conditions shall be measured and recorded during the performance test:
    - 1) Sulfur content of the shredded tire raw material charged to the solids recovery reactor (EU14)
    - 2) Feed to the solids recovery reactor (EU14)
    - 3) Temperature profile of the solids recovery reactor (EU14)
    - 4) Vacuum (negative pressure) of the solids recovery reactor (EU14)
    - 5) Temperature of the condensers (CD6 and CD7)
    - 6) Flow rate, in pounds per hour, of the non-condensable gas to the combustion chamber (CD5)
    - 7) Component analysis of the sulfur compounds in percent by mass of the non-condensable gas to the combustion chamber (CD5)
    - 8) Feed rates to the carbon black finishing operation emission units (EU1, EU2, EU7-12)
  - B. Stack test results from the bin vents and dust collectors (CD1-CD4) shall be used to develop an emission factor for PM<sub>10</sub> (**filterable**) emitted from the Carbon Black Finishing Operations (EU 1, 2, 7-12). The composite emission factor shall be based on the tons of carbon black processed per hour.

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**SPECIAL CONDITIONS:**

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

- C. Stack test results from the combustion chamber (CD5) shall be used to develop emission factors for PM<sub>10</sub> (**condensable and filterable**), Oxides of Nitrogen (NO<sub>x</sub>), Volatile Organic Compounds (VOC), Carbon Monoxide (CO), Sulfur dioxide (SO<sub>2</sub>), Hydrogen Sulfide (H<sub>2</sub>S), Total Reduced Sulfur (TRS) compounds, and Reduced Sulfur Compounds (RSC) emitted from the solids recovery reactor (EU14). The emission factors shall be based on the tons of tire shreds processed.
- D. Stack test results from the combustion chamber (CD5) shall be used to determine a destruction and removal efficiency for VOCs, volatile Hazardous Air Pollutants (HAPs), H<sub>2</sub>S, TRS, and RSC.
- E. A completed Proposed Test Plan (form enclosed) must be submitted to the Air Pollution Control Program at least 30 days prior to the proposed test date of any such performance tests so that a pretest meeting may be arranged, if necessary, and to assure that the test date is acceptable for an observer to be present. The Proposed Test Plan must include specification of test methods to be used and be approved by the director prior to conducting the required emissions testing.
- F. The stack testing shall be performed within sixty (60) days after achieving the maximum production rate of the solids recovery reactor (EU14), but not later than 180 days after initial start of operation.
- G. Two copies of a written report of the performance test results must be submitted to the director within 90 days of completion of the performance testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required Environmental Protection Agency (EPA) Method for at least one sample run for each air pollutant tested.
- H. No later than 30 days after the performance test results are submitted, CMC - Maryville shall provide the director with a report that establishes the potential emissions of each air pollutant tested in Special Conditions 3.B. and 3.C. The results shall report the emission rates in pounds per hour and tons per year in order that the Air Pollution Control Program may verify the potential emissions from this project.

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**SPECIAL CONDITIONS:**

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

- I. If the results of the performance testing shows that the emission rates are greater than those used in the emissions analysis herein, then CMC - Maryville shall evaluate what effects these higher emission rates would have had on the permit applicability and modelling applicability of this project. CMC - Maryville shall submit the results of any such evaluation within 30 days of submitting the Performance Test Results report required in Special Condition 3.H. of this permit.
  - J. The above time frames associated with this performance testing condition may be extended upon request of CMC - Maryville and approval by the Director.
4. Solids Recovery Reactor Requirements
- A. CMC - Maryville shall continuously monitor and record the temperature and vacuum (negative pressure) of the solids recovery reactor (EU14) and ensure these parameters are maintained within the normal operating range established during the compliance test specified in Special Condition 3.
  - B. CMC - Maryville shall maintain an operating and maintenance log for the solids recovery reactor (EU14) which shall include the following:
    - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
    - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
5. Control Device Requirement – Fabric Filters
- A. CMC - Maryville shall control emissions from the Carbon Black Finishing Operations (EU1, 2, 7, 8, 9, 10, 11, 12) using bin vents and dust collectors equipped with fabric filters (CD 1, 2, 3, 4) as specified in the permit application. The bin vents and dust collectors must be in use at all times while the following equipment is in operation:

Table 1: Bag House Control Plan

Emission Unit	Description	Control Device
EU1	Regen Hopper	CD1 (Bin Vent 1)
EU2	Regen Packout	CD1 (Bin Vent 1)
EU7	Finishing Unit 7	CD2 (Dust Collector 1)
EU8	Finishing Unit 8	CD2 (Dust Collector 1)
EU9	Finishing Unit 9	CD3 (Dust Collector 2)
EU10	Finishing Unit 10	CD4 (Dust Collector 3)
EU11	Pellet Hopper	CD4 (Dust Collector 3)
EU12	Pellet Packout	CD4 (Dust Collector 3)

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#### SPECIAL CONDITIONS:

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

- B. The bin vents and dust collectors (CD1-CD4) shall be operated and maintained in accordance with the manufacturer's specifications. The bin vents and dust collectors shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them. Replacement filters for the bin vents and dust collectors shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
  - C. CMC - Maryville shall monitor and record the operating pressure drop across the bin vent and dust collector filters at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
  - D. CMC - Maryville shall maintain an operating and maintenance log for the bin vents and dust collectors which shall include the following:
    - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
    - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
6. Control Device Requirement – Combustion Chamber
- A. CMC - Maryville shall control emissions from the solids recovery reactor (EU14) by using a combustion chamber (CD5) as specified in the permit application. The combustion chamber shall be in use at all times while the solids recovery reactor (EU14) is in operation. The combustion chamber shall be operated and maintained in accordance with the manufacturer's specifications.
  - B. The combustion chamber (CD5) shall achieve a destruction removal efficiency for VOCs and organic HAPs of at least 95 percent (95%). The destruction removal efficiency shall be verified through compliance testing, as detailed in Special Condition 3 of this permit.
  - C. CMC - Maryville shall continuously monitor and record the temperature of the combustion chamber (CD5) any time the solids recovery reactor (EU14) is in operation or any time that VOC and HAP emissions are possible and ensure that the temperature is maintained within the normal operating range established during the compliance test specified in Special Condition 3.



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### SPECIAL CONDITIONS:

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

of 10 CSR 10-3.090, Restriction of Emission of Odors, the Director may require CMC - Maryville to submit a corrective action plan within 30 days, adequate to timely and significantly mitigate the odors. CMC - Maryville shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be a violation of the permit.

#### 9. Record Keeping Requirements

CMC - Maryville shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. The following is a summary of the records and logs required by this permit:

- A. Attachment A (or an equivalent form) to record the PM<sub>10</sub> emissions from (EU1-EU16)
- B. Attachment B (or an equivalent form) to record the sulfur content and flow rate of the non-condensable vapor stream vented to the combustion chamber (CD5)
- C. Temperature log for the solids recovery reactor (EU14)
- D. Vacuum (negative pressure) log for the solids recovery reactor (EU14)
- E. Pressure drop log for the bin vents and dust collectors (CD1-CD4)
- F. Temperature log for the combustion chamber (CD5)
- G. Temperature difference log for the condensers (CD6 and CD7)
- H. Nuisance log
- I. Operating and maintenance logs for the following emission units and control devices:
  - 1) EU1-EU12, EU14
  - 2) CD1-CD7

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

Project Number: 2008-08-011  
Installation ID Number: 147-0043  
Permit Number:

Carbolytic Materials Company - Maryville Plant  
600 Wilson Industrial Road  
Maryville, MO 64468

Complete: December 29, 2008

Parent Company:  
Carbolytic Materials Company, LLC  
926 Ridgepointe Place Circle  
Lake Saint Louis, MO 63367

Nodaway County, S16, T64N, R35W

REVIEW SUMMARY

- CMC - Maryville has applied for authority to construct a facility to recycle shredded tires into carbon black and petroleum based oils.
- HAP emissions are expected from the proposed equipment due to the combustion of natural gas and diesel fuel. HAPs are also expected due to the combustion of the non-condensable vapor being emitted from the de-polymerization of the tire shreds; including carbonyl sulfide (CAS# 463-58-1) and carbonyl disulfide (CAS# 75-15-0).
- 40 CFR 60 Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, of the New Source Performance Standards (NSPS) applies to the emergency generator. The following NSPS **do not apply**:
  - 40 CFR 60 Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels*, does not apply to the tanks because the tank capacities are less than 19,800 gallons.
  - 40 CFR 60 Subpart VV, *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry*, 40 CFR 60 Subpart NNN, *Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations*, and 40 CFR 60 Subpart RRR, *Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes*, do not apply to the source because the facility does not produce any of the chemicals listed in 40 CFR 60.489, 40 CFR 60.667, or 40 CFR 60.707.

- 40 CFR 60 Subpart GGGa, *Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries*, and 40 CFR 60 Subpart QQQ, *Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems*, do not apply to the source because the facility does not produce fuel oils through the distillation of petroleum.
  - 40 CFR 60 Subpart AAAA, *Standards of Performance for Small Municipal Waste Combustion Units*, does not apply to the source because the facility satisfies the exclusion for rubber recycling units.
  - 40 CFR 60 Subpart EEEE, *Standards of Performance for Other Solid Waste Incineration Units*, does not apply to the source because the facility is not a very small municipal waste combustor as defined in 40 CFR 60.2977.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63 Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, applies to the emergency generator. The facility is not expected to be a major source of HAP emissions. The following area source MACT standards **do not apply**:
    - 40 CFR 63 Subpart MMMMMM, *National Emission Standards for Hazardous Air Pollutants for Carbon Black Production Area Sources*, does not apply to the source because the facility will not produce carbon black by the furnace, thermal, or acetylene processes.
  - None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to the proposed equipment.
  - Bin vents, dust collectors, and a combustion chamber are being used to control the PM<sub>10</sub>, VOCs, H<sub>2</sub>S, TRS, RSC, and volatile HAP emissions from the equipment in this permit.
  - This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM<sub>10</sub> are limited to below de minimis levels.
  - This installation is located in Nodaway County, an attainment area for all criteria air pollutants.
  - This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]. The installation is not considered a named carbon black manufacturing source because the facility will not produce carbon black by the furnace process.
  - Ambient air quality modeling was not performed since potential emissions of the application are limited to below de minimis levels.
  - Emissions testing is required for the source.
  - An operating permit is not required for the installation.

- Approval of this permit is recommended with special conditions.

## INSTALLATION/PROJECT DESCRIPTION

Carbolytic Materials Company, LLC has proposed to build a shredded tire recycling facility near Maryville, Missouri, which will be known as the Carbolytic Materials Company - Maryville Plant (CMC – Maryville). The facility will be located at the Maryville Industrial Development Corporation Industrial Park in Nodaway County. The facility will utilize a proprietary, low temperature, catalytic de-polymerization process to convert shredded tires into petroleum based oils, carbon black, and scrap steel. As this is a new facility, no prior construction permits have been issued to CMC - Maryville from the Air Pollution Control Program.

Carbolytic Materials Company, LLC requested the production throughputs, the maximum design rates and the process flow diagrams submitted in the application to be treated as confidential. The company believes that the information identified as confidential has competitive value because this is the first commercial operation of this technology and disclosure of the information would allow competitors to enter the business without having to expend equivalent resources. Therefore, a separate confidential permit has been prepared and may be reviewed by employees of the Missouri Department of Natural Resources and the United States Environmental Protection Agency upon request.

The following table provides a summary of the emission units and control devices considered for this permit.

Table 2: Summary of Emission Units

Point ID	Description	MHDR	MHDR Units	Control device
EU1	Regen Hopper			CD1 (Bin Vent 1)
EU2	Regen Packout			CD1 (Bin Vent 1)
EU3/CD5	Combustion Chamber			N/A
EU4	Light Oil Tank			N/A
EU5	Heavy Oil Tank			N/A
EU6	Diesel Fuel Tank			N/A
EU7	Finishing Unit 7			CD2 (Dust Collector 1)
EU8	Finishing Unit 8			CD2 (Dust Collector 1)
EU9	Finishing Unit 9			CD3 (Dust Collector 2)
EU10	Finishing Unit 10			CD4 (Dust Collector 3)
EU11	Pellet Hopper			CD4 (Dust Collector 3)
EU12	Pellet Packout			CD4 (Dust Collector 3)
EU13	Emergency Generator			N/A
EU14	Solids Recovery Reactor			CD5
EU15	Haul Road			N/A
EU16	Carbon Black Finishing Fugitive Emissions			N/A

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

## EMISSIONS/CONTROLS EVALUATION

The emission factors used to calculate potential emissions for the carbon black finishing operation were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

CMC-Maryville estimated emissions from the combustion chamber (EU3/CD5) by assuming the emissions to be comparable to those expected from the combustion of natural gas. As there are no emission factors available for this process, the combustion of natural gas was used to estimate potential emissions for PM<sub>10</sub>, NO<sub>x</sub>, VOC, and CO.

CMC-Maryville provided a sulfur analysis from a pilot facility which included a component analysis of the sulfur containing compounds present in the process stream entering the combustion chamber. The potential emissions of sulfur compounds from the combustion chamber were estimated assuming 100% conversion of sulfur compounds to SO<sub>2</sub> and 95% control of H<sub>2</sub>S, TRS, RSC, carbonyl sulfide, and carbon disulfide. According to 40 CFR 60.281 Total reduced sulfur (TRS) means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide. According to 40 CFR 60.101 Reduced sulfur compounds (RSC) means hydrogen sulfide (H<sub>2</sub>S), carbonyl sulfide (COS) and carbon disulfide (CS<sub>2</sub>).

Emissions from the tanks were estimated by the applicant using TANKS 4.0. The emission factors used to calculate potential emissions due to the combustion of diesel fuel for the emergency generator (EU13) and the combustion of natural gas for Finishing Unit 9 (EU9) were obtained from AP-42, Section 3.4 *Large Stationary Diesel and All Stationary Dual-fuel Engines* (October 1996) and Section 1.4 *Natural Gas Combustion* (July 1998).

Potential emissions of the application represent the potential emissions for the entire installation; including the potential of the emergency generator (EU13) operating 500 hours per year and the potential of all other equipment operating 8760 hours per year. The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels <sup>1</sup>	Existing Potential Emissions	Uncontrolled Potential Emissions of the Application	Potential Emissions of the Application	New Installation Conditioned Potential
PM <sub>10</sub>	15.0	N/A	N/D	38.516	<15
SO <sub>x</sub>	40.0	N/A	N/D	37.255	N/A
NO <sub>x</sub>	40.0	N/A	N/D	17.377	N/A
VOC	40.0	N/A	N/D	2.276	N/A
CO	100.0	N/A	N/D	6.728	N/A
H <sub>2</sub> S	10.0	N/A	7.997	0.400	N/A
TRS	10.0	N/A	14.164	0.708	N/A
RSC	10.0	N/A	13.243	0.662	N/A
HAP (Carbonyl sulfide)	5.0	N/A	4.926	0.246	N/A
HAP (Carbon disulfide)	1.0	N/A	0.320	0.016	N/A
HAPs (Combined)	25.0	N/A	N/D	0.768	N/A

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

<sup>1</sup>For HAPs, the value represents the Screening Model Action Level (SMAL)

### 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 PM<sub>10</sub> are limited to below de minimis levels.

### APPLICABLE REQUIREMENTS

CMC - Maryville 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.

### 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.

- *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 10-3.090

#### SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060

#### 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.

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Kathi Jantz  
Environmental Engineer

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Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated December 22, 2008, received December 29, 2008, designating Carbolytic Materials Company, LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated August 21, 2008.

## Attachment A – PM<sub>10</sub> Compliance Worksheet

Carbolytic Materials Company - Maryville Plant  
 Nodaway County, S16, T64N, R35W  
 Project Number: 2008-08-011  
 Installation ID Number: 147-0043  
 Permit Number: \_\_\_\_\_

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_.  
 (month, year) (month, year)

Month/Year	Diesel and Natural Gas Combustion Units and Haul Road EU3, EU9, EU13, EU15	Combustion Chamber (CD5)			Carbon Black Finishing (CD1-C4)				12 month Total PM <sub>10</sub> Emissions	
		C4	C5	C6	C7	C8	C9	C10	C11	C12
	PM <sub>10</sub> Emissions (tons per month)	tons scrap tire shred processed per month	(CD5) EF (tons PM <sub>10</sub> /ton scrap tires)	PM <sub>10</sub> Emissions (tons)	tons carbon black processed per month	(CD1-CD4) EF (tons PM <sub>10</sub> /tons carbon black)	EU16 EF (tons PM <sub>10</sub> /tons carbon black)	PM <sub>10</sub> Emissions (tons)	Month PM <sub>10</sub> Emissions (tons)	12 month Rolling Total PM <sub>10</sub> Emissions (tons)
	0.098						.0001			
	0.098						.0001			
	0.098						.0001			
	0.098						.0001			
	0.098						.0001			
	0.098						.0001			

C2 = the maximum emission rate calculated with the AP42 emissions factors obtained for EU3, EU9, EU13, and EU15 and the PTE of the facility

C4 = the tons of tire shreds processed through the solids recovery reactor (EU14) during the month indicated in C1

C5 = the PM<sub>10</sub> emission factor for CD5 determined from the stack test results according to Special Condition Number 3

C6 = C4 \* C5

C7 = the tons of carbon black processed through the Finishing Unit 7 (EU7) during the month indicated in C1

C8 = the PM<sub>10</sub> emission factor for CD1-CD4 determined from the stack test results according to Special Condition Number 3

C9 = the emission factor for fugitive emissions according to AP-42, Fifth Edition.

C10 = (C7 \* C8) + (C7 \* C9)

C11 = C2 + C6 + C10

C12 = C11 + previous 11 months total. **A value less than 15.0 tons is necessary for continued compliance.**



Mr. Frank Gerberich  
Vice President, Business Development  
Carbolytic Materials Company  
926 Ridgepointe Place Circle  
Lake Saint Louis, MO 63367

RE: New Source Review Permit - Project Number: 2008-08-011/2008-08-012

Dear Mr. Gerberich:

Enclosed with this letter are your public and confidential permits to construct. Please study them 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 and your new source review permit application 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 Kathi Jantz at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:kjk

Enclosures

c: Kansas City Regional Office  
PAMS File: 2008-08-011/2008-08-012

Permit Number: