

STATE OF MISSISSIPPI AIR POLLUTION CONTROL PERMIT

**AND PREVENTION OF SIGNIFICANT
DETERIORATION AUTHORITY
TO CONSTRUCT AIR EMISSIONS EQUIPMENT
THIS CERTIFIES THAT**

Zeon Chemicals LP
1301 West 7th Street
Hattiesburg,, Forrest, Mississippi

has been granted permission to construct air emissions equipment to comply with emission limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder and under authority granted by the Environmental Protection Agency under 40 CFR 52.01 and 52.21.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD



AUTHORIZED SIGNATURE

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: June 8, 2000

Permit No.: 0800-00006

Modified: NOV 0 8 2012

**PART I
GENERAL CONDITIONS**

1. Any activities not identified in the application are not authorized by this permit.
2. All air pollution control facilities shall be designed and constructed such as to allow proper operation and maintenance of the facilities.
3. The necessary facilities shall be constructed so that solids removed in the course of control of air emissions may be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering State waters without the proper environmental permits.
4. The air pollution control facilities shall be constructed such that diversion from or bypass of collection and control facilities is not needed except as provided for in Regulation APC-S-1, "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants", Section 10.
5. The construction of facilities shall be performed in such a manner as to reduce both point source and fugitive dust emissions to a minimum.
6. The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their representatives upon presentation of credentials:
 - a. To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit; and
 - b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air emissions.
7. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to:
 - a. Violation of any terms or conditions of this permit.
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts, or
 - c. A change in any condition that requires either a temporary or permanent reduction or elimination of authorized air emissions.

8. Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Environmental Quality Office of Pollution Control.
9. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
10. Nothing herein contained shall be construed as releasing the permittee from any liability for damage to persons or property by reason of the installation, maintenance, or operation of the air cleaning facility, or from compliance with the applicable statutes of the State, or with local laws, regulations, or ordinances.
11. This permit may only be transferred upon approval of the Mississippi Environmental Quality Permit Board.
12. This permit is for air pollution control purposes only.
13. Approval to construct will expire should construction not begin within eighteen (18) months of the issuance of this permit, or should construction be suspended for eighteen (18) months.
14. Prior to startup of air emissions equipment at this source, the permittee must submit certification that construction was completed in accordance with the approved plans and specifications.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning June 8, 2000, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from Emission Point AA-001, the John Zink, Model STE-U-2 Flare Tower (Reference No. 1A). Heat Input, 2.5 MMBTU/Hr.

The flare shall control total organic compounds (TOC) emissions from the specified synthetic rubber front-end continuous processing operations. The front-end refers to the unit operations in an elastomer product process unit (EPPU) prior to, and including, the stripping operation. The process front-end includes activity from raw material storage through the stripping operation, including pre-polymerization blending, reactions, etc. For all gas-phased reaction processes, all unit operations are considered to be front-end.

This emission point includes air emissions generated from Line A and Line B front-end processes.

The air emissions equipment shall be constructed to comply with the emission limitations and monitoring requirements specified below.

EMISSION LIMITATIONS

Visible Emissions	0% , not to exceed a total of five (5) minutes during any two (2) consecutive hours, as determined by EPA Test Method 22, 40 CFR 60, Appendix A.
--------------------------	---

All test methods specified above shall be those versions, or their approved equivalents, which are in effect June 8, 2000.

CONTROL DEVICE REQUIREMENTS

Emission Point AA-001 shall be operated at all times when emissions may be vented to it.

MONITORING REQUIREMENTS

Emission Point AA-001 shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a device (including but not limited to, a thermocouple, ultra-violet beam sensor, infrared sensor, or any other equivalent device) capable of continuously detecting the presence of a pilot flame.

PERFORMANCE TEST METHODS & PROCEDURES

The permittee shall comply with the flare provisions in § 63.11(b) of Subpart A.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning June 8, 2000, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from Emission Point AA-003, the A-Line Tunnel Dryer (Reference No. 1D1).

The air emissions equipment shall be constructed to comply with the emission limitations and monitoring requirements specified below.

EMISSION LIMITATIONS

Volatile Organic Compounds	The maximum hourly emission rate shall not exceed 22.22 lbs/hr as determined by EPA Test Method(s) 18 or 25A, 40 CFR 60, Appendix A.
Opacity	40% as determined by EPA Test Method 9, 40 CFR 60, Appendix A.

All test methods specified above shall be those versions, or their approved equivalents, which are in effect June 8, 2000.

Total combined A-Line Back-end Process volatile organic compound emissions shall not exceed 228.24 tons/year in any consecutive 12-month period.

The Back-end refers to the unit operations in an EPPU following the stripping operations. Back-end process operations include, but are not limited to, filtering, coagulation, blending, concentration, drying, separating, and other finishing operations, as well as latex and crumb storage. This includes VOC emissions from AA-003, AA-005 AA-085 and fugitive VOC emissions from the A-Line process.

MONITORING REQUIREMENTS

The permittee shall maintain up-to-date, readily accessible documents identifying each emission point included in the A-Line Back-end Process

RECORDKEEPING REQUIREMENTS

For each consecutive 12-month period, the permittee shall maintain sufficient records documenting:

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Recordkeeping Requirements - Continued from Previous Page

- (1). The type, grade, and quantity of elastomer product(s) produced.
Acceptable methods of measuring quantity of elastomer produced are:
 - (a). Production records, or
 - (b). Measurement of stream characteristics; or
 - (c). Engineering calculations
- (2). The VOC content of each elastomer product produced, from data determined using Reference Method 18 or Method 25A. Other methods may be used to determine the VOC content if approved by Mississippi Department of Environmental Quality (MDEQ) personnel prior to testing.
- (3). For Emission Points AA-003, AA-005 and AA-085, the VOC emission rate in pounds per hour and tons per year for each consecutive 12-month period.
- (4). For the A-Line Back-end process, the total combined VOC emission rate in tons per year for each consecutive 12-month period.

The permittee shall maintain on site all records, data and calculations required by this section for a period of five (5) years following the date of such record and be made available for review upon request from (MDEQ) personnel.

REPORTING REQUIREMENTS

The permittee shall submit annual reports providing:

- (1). The type, grade, and quantity of elastomer product(s) produced.
- (2). The VOC content of each elastomer product produced.
- (3). For each emission point included in the A-Line Back-end Process, the VOC emission rate in pounds per hour and tons per year for each consecutive 12-month period.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Reporting requirements - Continued from Previous Page

- (4). For the A-Line Back-end process, the total combined VOC emission rate in tons per year for each consecutive 12-month period.
- (5). A description of the method(s) used to determine the quantity of elastomer product(s) produced, the VOC data and the emission rate.

The report shall be submitted no later than 30 days from the calendar period ending December 31.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning June 8, 2000, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from Emission Point AA-005, A-Line French Press & Shaker Screen Vent (Reference No. 1E2).

The air emissions equipment shall be constructed to comply with the emission limitations and monitoring requirements specified below.

EMISSION LIMITATIONS

Volatile Organic Compounds The maximum hourly emission rate shall not exceed 16.95 lbs/hr as determined by EPA Test Method(s) 18 or 25A, 40 CFR 60, Appendix A.

Opacity 40% as determined by EPA Test Method 9, 40 CFR 60, Appendix A.

All test methods specified above shall be those versions, or their approved equivalents, which are in effect June 8, 2000.

Total combined A-Line Back-end Process volatile organic compound emissions shall not exceed 228.24 tons/year in any consecutive 12-month period.

The Back-end refers to the unit operations in an EPPU following the stripping operations. Back-end process operations include, but are not limited to, filtering, coagulation, blending, concentration, drying, separating, and other finishing operations, as well as latex and crumb storage. This includes VOC emissions from AA-003, AA-005, AA-085 and fugitive VOC emissions from the A-Line process.

MONITORING REQUIREMENTS

The permittee shall maintain up-to-date, readily assessable documents identifying each emission point included in the A-line Back-end Process.

RECORDKEEPING REQUIREMENTS

For each consecutive 12-month period, the permittee shall maintain sufficient records documenting:

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Recordkeeping Requirements - Continued from Previous Page

- (1). The type, grade, and quantity of elastomer product(s) produced.
Acceptable methods of measuring quantity of elastomer produced are:
 - (a). Production records, or
 - (b). Measurement of stream characteristics; or
 - (c). Engineering calculations
- (2). The VOC content of each elastomer product produced, from data determined using Reference Method 18 or Method 25A. Other methods may be used to determine the VOC content if approved by Mississippi Department of Environmental Quality (MDEQ) personnel prior to testing.
- (3). For Emission Points AA-003, AA-005 and AA-085, the VOC emission rate in pounds per hour and tons per year for each consecutive 12-month period.
- (4). For the A-Line Back-end process, the total combined VOC emission rate in tons per year for each consecutive 12-month period.

The permittee shall maintain on site all records, data and calculations required by this section for a period of five (5) years following the date of such record and be made available for review upon request from (MDEQ) personnel.

REPORTING REQUIREMENTS

The permittee shall submit annual reports providing:

- (1). The type, grade, and quantity of elastomer product(s) produced.
- (2). The VOC content of each elastomer product produced.
- (3). For Emission Points AA-003, AA-005 and AA-085, the VOC emission rate in pounds per hour and tons per year for each consecutive 12-month period.
- (4). For the A-Line total Back-end process, the total VOC emission rate, the emission rate of each individual HAP, and the total HAP emission rate in pounds per hour and tons per year.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Reporting requirements - Continued from Previous Page

- (5). A description of the method(s) used to determine the quantity of elastomer product(s) produced, the VOC data and the emission rate.

The report shall be submitted no later than 30 days from the calendar period ending December 31.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning June 8, 2000, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from Emission Point AA-085, the A-Line Process Cyclone (Reference No. 1J).

The air emissions equipment shall be constructed to comply with the emission limitations and monitoring requirements specified below.

EMISSION LIMITATIONS

Volatile Organic Compounds	The maximum hourly emission rate shall not exceed 12.95 lbs/hr as determined by EPA Test Method(s) 18 or 25A, 40 CFR 60, Appendix A.
Opacity	40% as determined by EPA Test Method 9, 40 CFR 60, Appendix A.

All test methods specified above shall be those versions, or their approved equivalents, which are in effect June 8, 2000.

Total combined A-Line Back-end Process volatile organic compound emissions shall not exceed 228.24 tons/year in any consecutive 12-month period.

The Back-end refers to the unit operations in an EPPU following the stripping operations. Back-end process operations include, but are not limited to, filtering, coagulation, blending, concentration, drying, separating, and other finishing operations, as well as latex and crumb storage. This includes VOC emissions from AA-003, AA-005 AA-085 and fugitive VOC emissions from the A-Line process.

MONITORING REQUIREMENTS

The permittee shall maintain up-to-date, readily accessible documents identifying each emission point included in the A-Line Back-end Process

RECORDKEEPING REQUIREMENTS

For each consecutive 12-month period, the permittee shall maintain sufficient records documenting:

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Recordkeeping Requirements - Continued from Previous Page

- (1). The type, grade, and quantity of elastomer product(s) produced.
Acceptable methods of measuring quantity of elastomer produced are:
 - (a). Production records, or
 - (b). Measurement of stream characteristics; or
 - (c). Engineering calculations
- (2). The VOC content of each elastomer product produced, from data determined using Reference Method 18 or Method 25A. Other methods may be used to determine the VOC content if approved by Mississippi Department of Environmental Quality (MDEQ) personnel prior to testing.
- (3). For Emission Point AA-003, AA-005 and AA-085, the VOC emission rate in pounds per hour and tons per year for each consecutive 12-month period.
- (4). For the A-Line Back-end process, the total combined VOC emission rate in tons per year for each consecutive 12-month period.

The permittee shall maintain on site all records, data and calculations required by this section for a period of five (5) years following the date of such record and be made available for review upon request from (MDEQ) personnel.

REPORTING REQUIREMENTS

The permittee shall submit annual reports providing:

- (1). The type, grade, and quantity of elastomer product(s) produced.
- (2). The VOC content of each elastomer product produced.
- (3). For Emission Point AA-003, AA-005 and AA-085, the VOC emission rate in pounds per hour and tons per year for each consecutive 12-month period.
- (4). For the A-Line Back-end process, the total combined VOC emission rate in tons per year for each consecutive 12-month period.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Reporting requirements - Continued from Previous Page

- (5). A description of the method(s) used to determine the quantity of elastomer product(s) produced, the VOC data and the emission rate.

The report shall be submitted no later than 30 days from the calendar period ending December 31.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning June 8, 2000, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from Emission Point AA-000, the A-Line Front-end Continuous Processing Operation. The front-end refers to the unit operations in an elastomer product process unit (EPPU) prior to, and including, the stripping operation. The process front-end includes activity from raw material storage through the stripping operation, including pre-polymerization blending, reactions, etc. For all gas-phased reaction processes, all unit operations are considered to be front-end.

Emission Point AA-000 shall include process emissions generated from the air emissions equipment listed below:

The process gases are vented to a flare, Emission Point AA-001, to control volatile organic compound (VOC) emissions.

Reference No.	Description
A-1040	1st Stage Coagulator
A-1041	5,875 gallon Slurry Hold Tank
E-1027	Catalyst Reactor Condenser
E-1040	Partial Condenser
E-1042	Vent Condenser
E-4041	Coagulator Condenser
E-4044	Slurry Tank Condenser
R-1022	1,649 gallon Catalyst Reactor/Hold Tank
R-1033	Polymerizer
R-1042	React Out Polymerizer
S-1041	Coagulator Separator
S-1044	2nd Stage Coagulator Separator
T-1037	9,136 gallon Cement Hold Tank
T-1043	5,013 gallon Slurry Hold Tank
A-500	Toluene Stripper

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Continued from Previous Page

Reference No.	Description
A-501	Bottoms Still
A-502	ECH Drying Still
A-1086	Light Ends Still
E-500-2	Toluene Stripper Reboiler
E-500-3	Toluene Stripper Condenser
E-500-4	Toluene Stripper Vent Condenser
E-500-5	Toluene Feed Preheater
E-501-2	Bottoms Still Reboiler
E-501-3	Bottoms Still Condenser
E-501-4	Bottoms Still Vent Condenser
E-502-2	ECH Still Reboiler
E-1086-3	Light Ends Still Condenser
E-1086-2	Light Ends Still Reboiler
T-500-7	Toluene Stripper Reflux Tank
T-501-7	640 gallon Bottoms Still Reflux Tank
E-86-2	THF Still Reboiler
E-86-3	THF Still Condenser
T-86	125 gallon THF Reflux Tank

Such air emissions equipment shall be constructed in accordance with design criteria in the application, plans, and other technical documents submitted with the application to construct.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning June 8, 2000, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from the A-Line Front-end Continuous Processing Operation - Process Tanks given below:

Emission Point	Reference No.	Roof Type	Capacity (gal)
AT-011	T-46	Fixed Roof	1,114
AT-012	T-47	Fixed Roof	10,380
AT-016	T-24	Fixed Roof	25,200
AT-024	T-80A	Fixed Roof	20,000
AT-025	T-80B	Fixed Roof	20,000
AT-026	T-1016	Fixed Roof	66,000

Such air emissions equipment shall be constructed in accordance with design criteria in the application, plans, and other technical documents submitted with the application to construct.

CONTINUOUS FRONT-END PROCESS VENT PROVISIONS

For Emission Points AT-011, AT-012, AT-016, AT-024, AT-025 and AT-026, the permittee shall comply with the requirements of §§ 63.113 through 63.118 of Subpart G, except as provided for in 40 CFR 63, Subpart U, Continuous Front-End Process Vent Provisions.

Reference Control Technology

The permittee shall comply with the requirements of § 63.113(a)(3).

The permittee shall achieve and maintain a TRE index value greater than 4.0, comply with the provisions for a Group 2 process vent specified in § 63.113(e) and comply with the provisions for calculation of the TRE index in § 63.115 and the reporting and recordkeeping provisions in § 63.117(b), § 63.118(c) and § 63.118(h), and is not subject to monitoring or any other provisions of §§ 63.114 through 63.118.

PART II
EMISSION LIMITATION AND MONITORING REQUIREMENTS

Methods & Procedures for Process Vent Group Determination

For Emission Points AT-011, AT-012, AT-016, AT-024, AT-025 and AT-026, for the purposes of determining the TRE index value, as specified under § 63.115(d), the sampling site shall be after the last recovery device (if any recovery devices are present) but prior to the inlet of any control device that is present and prior to release to the atmosphere.

In accordance with § 63.115(a)(1), Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site.

In accordance with § 63.115(a)(2), no traverse site selection method is needed for vents smaller than 0.10 meter in diameter.

For Emission Points AT-011, AT-012, AT-016, AT-024, AT-025 and AT-026, to determine the TRE index value, the permittee shall conduct a TRE determination and calculate the TRE index value according to the procedures in § 63.115(d)(1) or (d)(2) and the TRE equation in § 63.115(d)(3).

For Emission Points AT-011, AT-012, AT-016, AT-024, AT-025 and AT-026, the permittee shall recalculate the TRE index value, flow, or organic hazardous air pollutants concentration for each process vent, as necessary to determine whether the vent is Group 1 or Group 2, whenever process changes are made that could reasonably be expected to change the vent to a Group 1 vent. Examples of process changes include, but are not limited to, changes in production capacity, production rate, feedstock type, or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of § 63.115(e), process changes do not include: Process upsets; unintentional, temporary process changes; and changes that are with-in the range on which the original TRE calculation was based.

Reporting & Recordkeeping Requirements
for Group and TRE determinations and Performance Tests

In accordance with § 63.117(b) of Subpart G, the permittee shall maintain records and submit as part of the Notification of Compliance Status specified in § 63.152 of Subpart G, measurements, engineering assessments, and calculations performed to determine the TRE index value of the vent stream.

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Reporting & Recordkeeping Requirements for
Group and TRE determinations and Performance Tests - Continued from Previous Page

Documentation of engineering assessments shall include all data, assumptions, and procedures used for the engineering assessments, as specified in § 63.115(d)(1).

Periodic Reporting & Recordkeeping Requirements

In accordance with § 63.118(c), the permittee shall keep up-to-date, readily accessible records of:

- (1) Any process changes as defined in § 63.115(e); and
- (2) Any recalculation of the TRE index value pursuant to § 63.115(e).

In accordance with § 63.118(h), whenever a process change, as defined in § 63.115(e), is made that causes a Group 2 process vent with a TRE greater than 4.0 to become a Group 2 process vent with a TRE less than 4.0, the owner or operator shall submit a report within 180 calendar days after the process change. The report may be submitted as part of the next periodic report. The report shall include:

- (1). A description of the process change,
- (2). The results of the recalculation of the TRE index value required under § 63.115(e) and recorded under § 63.118, and
- (3). A statement that the owner or operator will comply with the requirements specified in § 63.113(d).

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

Beginning June 8, 2000, the permittee is authorized to construct air emissions equipment for the emission of air contaminants from the Volatile Organic Liquid Storage Vessels given below:

Emission Point	Reference No.	Roof Type	Capacity (gal)
AT-017	T-25	Fixed Roof	25,200
AT-031	T-1010	Fixed Roof	2,080
AT-076	T-44	Ethylene Oxide Storage Tank Vent Scrubber. Includes emissions from Emission Point AT-050, the 30,000 gallon Ethylene Oxide Pressure Tank (Reference No. T-1019).	

Such air emissions equipment shall be constructed in accordance with design criteria in the application, plans, and other technical documents submitted with the application to construct.

**PART III
OTHER REQUIREMENTS**

- (1) This facility is subject to and shall comply with the Maximum Achievable Control Technology (MACT) Standards as described in 40 CFR 63, Subpart A, National Emission Standards for Hazardous Air Pollutants (NESHAP) Source Categories and 40 CFR 63, Subpart U, National Emission Standards for Hazardous Air Pollutants Emissions: Group I Polymers and Resins.

The facility is also subject to and shall comply with the specific requirements of 40 CFR 63, Subpart F, National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (SOCMI); 40 CFR 63, Subpart G, National Emission Standards for Organic Hazardous Air Pollutants from SOCMI Process Vents, Storage Vessels, Transfer Operations, and Wastewater; and 40 CFR 63, Subpart H, National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, as specified in Subpart U.

All applicable requirements shall apply at all times except during periods of startup, shutdown, and malfunctions if the startup, shutdown, or malfunction precludes the ability of a particular emission point at an affected source to comply with one or more specific provisions to which it is subject.

(2) **EQUIPMENT LEAK PROVISIONS**

The permittee shall comply with the requirements of Subpart H for all equipment in organic HAP service, with the exception noted in 40 CFR 63, Subpart U, Equipment Leak Provisions.

The Periodic Reports required by § 63.182(a)(3) and § 63.182(d) of Subpart H shall be submitted as part of the Periodic Reports required by 40 CFR 63, Subpart U.