# STATE OF MISSISSIPPI
# AND FEDERALLY ENFORCEABLE
# AIR POLLUTION CONTROL
# PERMIT

TO OPERATE AIR EMISSIONS EQUIPMENT AT A SYNTHETIC MINOR SOURCE

**THIS CERTIFIES THAT**

Polychemie Inc.
Port Bienville Industrial Park, Road Drive
Pearlington, Mississippi
Hancock County

has been granted permission to operate air emissions equipment in accordance with emission limitations, monitoring requirements and conditions set forth herein. This permit is issued in accordance with the Federal Clean Air Act and the provisions of the Mississippi Air and Water Pollution Control Law (Section 49-17-1 et. seq., Mississippi Code of 1972), the regulations and standards adopted and promulgated thereunder, and the State Implementation Plan for operating permits for synthetic minor sources.

**MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD**

Becky Simonson

**AUTHORIZED SIGNATURE**
**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

**Issued: May 20, 2024** **Permit No.: 1000-00042**

**Effective Date: As specified herein.**

**Expires: April 30, 2029**

**Section 1.**

## A. GENERAL CONDITIONS

1. This permit is for air pollution control purposes only.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D.)

2. This permit is a Federally-approved permit to operate a synthetic minor source as described in 11 Miss. Admin. Code Pt. 2, R. 2.4.D.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.4.D.)

3. Any activities not identified in the application are not authorized by this permit.

   (Ref.: Miss. Code Ann. 49-17-29 1.b)

4. The knowing submittal of a permit application with false information may serve as the basis for the Permit Board to void the permit issued pursuant thereto or subject the applicant to penalties for constructing or operating without a valid permit.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(5).)

5. The issuance of a permit does not release the permittee from liability for constructing or operating air emissions equipment in violation of any applicable statute, rule, or regulation of state or federal environmental authorities.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(7).)

6. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit unless halting or reducing activity would create an imminent and substantial endangerment threatening the public health and safety of the lives and property of the people of this state.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(a).)

7. 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.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(c).)

8. The permittee shall allow the Mississippi Department of Environmental Quality Office of Pollution Control and the Mississippi Environmental Quality Permit Board and/or their authorized representatives, upon the 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 emission.

(Ref.: Miss. Code Ann. 49-17-21)

9. 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.

(Ref.: Miss. Code Ann. 49-17-39)

10. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is challenged or held invalid, the validity of the remaining permit provisions and/or portions thereof or their application to other persons or sets of circumstances, shall not be affected thereby.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.D(7).)

11. This permit does not authorize a modification as defined in Regulation 11 Miss. Admin. Code Pt. 2, Ch.2., "Permit Regulations for the Construction and/or Operation of Air Emission Equipment." A modification may require a Permit to Construct and a modification of this permit. Modification is defined as "Any physical change in or change in the method of operation of a facility which increases the actual emissions or the potential uncontrolled emissions of any air pollutant subject to regulation under the Federal Act emitted into the atmosphere by that facility or which results in the emission of any air pollutant subject to regulation under the Federal Act into the atmosphere not previously emitted. A physical change or change in the method of operation shall not include:

a. Routine maintenance, repair, and replacement;

b. Use of an alternative fuel or raw material by reason of an order under Sections 2(a) and (b) of the Federal Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

c. Use of an alternative fuel by reason of an order or rule under Section 125 of the Federal Act;

d. Use of an alternative fuel or raw material by a stationary source which:

(1) The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51, Subpart I, or 40 CFR 51.166; or

(2) The source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51, Subpart I, or 40 CFR 51.166;

e. An increase in the hours of operation or in the production rate unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51, Subpart I or 40 CFR 51.166; or

f. Any change in ownership of the stationary source.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.1.C(15).)

## B. GENERAL OPERATIONAL CONDITIONS

1. Should the Executive Director of the Mississippi Department of Environmental Quality declare an Air Pollution Emergency Episode, the permittee will be required to operate in accordance with the permittee's previously approved Emissions Reduction Schedule or, in the absence of an approved schedule, with the appropriate requirements specified in Regulation, 11 Miss. Admin. Code Pt. 2, "Regulations for the Prevention of Air Pollution Emergency Episodes" for the level of emergency declared.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.10.)

2. Any diversion from or bypass of collection and control facilities is prohibited, except as provided for in 11 Miss. Admin. Code Pt. 2, R. 1.10., "Air Emission Regulations for the Prevention, Abatement, and Control of Air Contaminants."

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

3. Solids removed in the course of control of air emissions shall 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.

(Ref.: Miss. Code Ann. 49-17-29 1.a(i and ii))

4. Except as otherwise specified herein, the permittee shall be subject to the following provisions with respect to upsets, startups, and shutdowns.

a. Upsets

(1) For an upset defined in 11 Miss. Admin. Code Pt. 2, R. 1.2., the Commission may pursue an enforcement action for noncompliance with an emission standard or other requirement of an applicable rule, regulation, or permit. In determining whether to pursue enforcement action, and/or the appropriate enforcement action to take, the Commission may consider whether the source has demonstrated through properly signed contemporaneous operating logs or other relevant evidence the following:

(i) An upset occurred and that the source can identify the cause(s) of the upset;

(ii) The source was at the time being properly operated;

(iii) During the upset the source took all reasonable steps to minimize levels of emissions that exceeded the emission standard or other requirement of an applicable rule, regulation, or permit;

(iv) That within 5 working days of the time the upset began, the source submitted a written report to the Department describing the upset, the steps taken to mitigate excess emissions or any other noncompliance, and the corrective actions taken and;

(v) That as soon as practicable but no later than 24 hours of becoming aware of an upset that caused an immediate adverse impact to human health or the environment beyond the source boundary or caused a general nuisance to the public, the source provided notification to the Department.

(2) In any enforcement proceeding by the Commission, the source seeking to establish the occurrence of an upset has the burden of proof.

(3) This provision is in addition to any upset provision contained in any applicable requirement.

(4) These upset provisions apply only to enforcement actions by the Commission and are not intended to prohibit EPA or third party enforcement actions.

b. Startups and Shutdowns (as defined by 11 Miss. Admin. Code Pt. 2, R. 1.2.)

(1) Startups and shutdowns are part of normal source operation. Emission limitations apply during startups and shutdowns unless source specific emission limitations or work practice standards for startups and shutdowns are defined by an applicable rule, regulation, or permit.

(2) Where the source is unable to comply with existing emission limitations

established under the State Implementation Plan (SIP) and defined in this regulation, 11 Mississippi Administrative Code, Part 2, Chapter 1, the Department will consider establishing source specific emission limitations or work practice standards for startups and shutdowns. Source specific emission limitations or work practice standards established for startups and shutdowns are subject to the requirements prescribed in 11 Miss. Admin. Code Pt. 2, R. 1.10.B(2)(a) through (e).

(3) Where an upset as defined in Rule 1.2 occurs during startup or shutdown, see the upset requirements above.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.10.)

5. Compliance Testing: Regarding compliance testing:

a. The results of any emissions sampling and analysis shall be expressed both in units consistent with the standards set forth in any Applicable Rules and Regulations or this permit and in units of mass per time.

b. Compliance testing will be performed at the expense of the permittee.

c. Each emission sampling and analysis report shall include but not be limited to the following:

(1) Detailed description of testing procedures;

(2) Sample calculation(s);

(3) Results; and

(4) Comparison of results to all Applicable Rules and Regulations and to emission limitations in the permit.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.6.B(3), (4), and (6).)

## C. PERMIT RENEWAL / MODIFICATION / TRANSFER / TERMINATION

1. For renewal of this permit, the applicant shall make application not less than one-hundred eighty (180) days prior to the expiration date of the permit substantiated with current emissions data, test results or reports or other data as deemed necessary by the Mississippi Environmental Quality Permit Board. If the applicant submits a timely and complete application pursuant to this paragraph and the Permit Board, through no fault of the applicant, fails to act on the application on or before the expiration date of the existing permit, the applicant shall continue to operate the stationary source under the terms and conditions of the expired permit, which shall remain in effect until final action on the application is taken by the Permit Board. Permit expiration terminates the

source's ability to operate unless a timely and complete renewal application has been submitted.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.8.)

2. The permittee shall furnish to the DEQ within a reasonable time any information the DEQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit or, for information claimed to be confidential, the permittee shall furnish such records to the DEQ along with a claim of confidentiality. The permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(d).)

3. The permit and/or any part thereof may be modified, revoked, reopened, and reissued, or terminated for cause. Sufficient cause for a permit to be reopened shall exist when an air emissions stationary source becomes subject to Title V. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(15)(b).)

4. 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. Persistent 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 federal, state, or local laws or regulations that require either a temporary or permanent reduction or elimination of previously authorized air emission.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.C.)

5. This permit may only be transferred upon approval of the Mississippi Environmental Quality Permit Board.

   (Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.16.B.)

## SECTION 2
## EMISSION POINT DESCRIPTION

The permittee is authorized to operate air emissions equipment, as described in the following table.

| Emission Point | Facility ID | Description |
|---|---|---|
| AA-001 | B-100 | 25.1 MMBtu/hr Natural Gas-Fired Boiler |
| AA-002 | B-101 | 13.4 MMBtu/hr Natural Gas-Fired Boiler |
| AA-004 | - | 755 HP Diesel Fired Emergency Generator |
| AA-005 | B-103 | 25.1 MMBtu/hr Natural Gas-Fired Boiler |
| AA-050 | P-1A through P-1F | DADMAC Production Lines<br>Includes the following equipment:<br>*Monomer Reactors (R801 through R-804, R-809, R-810)*<br>*Slurry Tanks (V-801, V-802, V-809)*<br>*Centrifuges (C-801 through C-803, and C-810)*<br>*Centrifuge Receivers (V-C801 through V-C803)*<br>*Monomer Vessels (V-803)*<br>*Organics Vessel (V-804)*<br>*Liquid-Liquid Centrifuges (LS-803, LS-804, and LS-805)*<br>*AOH/Water Vessel (V-805)*<br>*Polymer Reactors (R-501, R-502, R-805 through R-808)*<br>*Initiator Make-ups (V-R805 through V-R808)*<br>*Polymer Blend Vessels (V-501, V-502, V-806 through V-808)*<br>*Gas Sampling Unit on Distillate Line* |
| AA-100 | P-2A through P-2D | Polyamine Process Lines<br>Includes the following equipment:<br>*Reactors (R-901 through R-904)*<br>*Blend Vessels (V-901 through V-904)* |
| AA-401 | EDC-NH3 | Ethylene Dichloride (EDC)-Ammonia Polyamine Production Line<br>Includes the following equipment:<br>*Reactor (R-401)*<br>*Receiver Vessel (V-401)*<br>*Distillation Column (D-401)*<br>*Centrifuge (C-401)* |
| AA-530 | LQ10-SAS | SAS Monomer Production/Neutralization<br>Emissions vent to Emission Point AC-510 when producing SAS Polymer |
| | LQ10-MAS | MAS Polymer Production/Neutralization<br>Emissions vent to Emission Point AC-511 when producing MAS Polymer |
| AB-100 | TO-100 | Thermal Oxidizer<br>Controls emissions from the DADMAC Process Lines (AA-050), the EDC-Ammonia process (AA-401), and the Hazardous waste storage tanks (AD-830 and AD-831). Emissions from the thermal oxidizer are routed to the packed tower scrubber S-TO100 (AC-100). |
| AB-200 | TO-200 | Thermal Oxidizer<br>Controls emissions from DADMAC Process Lines (AA-050) and the EDC Ammonia Process |

| | | |
|---|---|---|
| | | (AA-401, AD-830, and AD-831). Emissions from the thermal oxidizer are routed to the packed tower scrubber S-TO200 (AC-200). |
| AC-100 | S-TO100 | Packed Tower Scrubber<br>Controls emissions from the Thermal Oxidizer (AB-100) |
| AC-101 | SC-901 | Venturi, Packed Tower Scrubber with mist eliminator<br>Controls emissions from the Polyamine process (AA-100) |
| AC-200 | S-TO200 | Venturi, Packed Tower Scrubber with mist eliminator<br>Controls emissions from Thermal Oxidizer (AB-200) |
| AC-400 | SC-T6 | Venturi, Packed Tower Scrubber with mist eliminator<br>Controls emissions from Hydrochloric Acid Tank (AD-006) |
| AC-510 | LQ10-SC1 | Venturi, Packed Tower Scrubber<br>Controls emissions from SAS Monomer Production (AA-530) and SAS/MAS Storage Tanks (AD-602 and AD-603) |
| AC-511 | LQ10-SC2 | Venturi, Packed Tower Scrubber<br>Controls emissions from MAS Polymer Production/Neutralization (AA-530) and maleic anhydride storage tank (AD-610) |
| AC-520 | - | SAS/MAS Bulk/Non-Bulk Loading Operations<br>Emissions may vent directly to atmosphere, directly to scrubber (Emission Point AC-510), or indirectly to Emission Point AC-510 via vapor balance with SAS process (Emission Point AA-530) or storage tank (Emission Point AD-602) |
| AD-001 | T-1 | Allyl Chloride Tank: 35,000-gallon pressurized tank |
| AD-002 | T-2 | Allyl Chloride Tank: 35,000-gallon pressurized tank |
| AD-003 | T-3 | Dimethylamine Tank: 35,000-gallon pressurized tank |
| AD-004 | T-4 | Dimethylamine Tank: 37,628-gallon pressurized tank |
| AD-006 | T-6 | Hydrochloric Acid Tank: 6,000-gallon fixed roof tank venting to Scrubber (AC-400) |
| AD-011 | T-11 | Epichlorohydrin Tank: 35,000-gallon fixed roof tank |
| AD-013 | T-13 | Ethylenediamine 8,000-gallon fixed roof tank |
| AD-014 | T-14 | Sodium Bisulfite Tank, 40%: 10,000-gallon fixed roof tank |
| AD-015 | T-15 | Recycle Water/Potassium Hydroxide Solution (45%) Tank: 6,000-gallon fixed roof tank |
| AD-018 | T-18 | Ethylene Dichloride (EDC) Tank: 35,000-gallon pressurized tank |
| AD-019 | T-19 | Aqueous Ammonia, 30% Tank: 17,460-gallon pressurized tank |
| AD-020 | T-20 | Weak Ammonia Tank: 6,000-gallon fixed roof tank |
| AD-021 | T-21 | Polyamine Tank: 7,044-gallon fixed roof tank |
| AD-032 | T-32 | Dimethylamine Tank: 37,628-gallon pressurized tank |

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|---|---|---|
| AD-036 | T-36 | Ethylenediamine Tank: 10,000-gallon fixed roof tank |
| AD-105 | T-105 | Glycol/Water Tank: 7,000-gallon fixed roof tank |
| AD-106 | T-106 through T-112, T-120 | Recycle Water Tanks: 8 fixed roof tanks ranging from 1,000 gallons to 12,000 gallons |
| AD-113 | T-113 | Wastewater Check Tank: 6,000-gallon fixed roof tank |
| AD-124 | T-124 | Diesel Tank (for Emission Point AA-004): 1,700-gallon fixed roof tank |
| AD-143 | T-143 | Recycled Polymer Tank: 5,500-gallon fixed roof tank |
| AD-200 | T-200 | Diesel Tank: 550-gallon fixed roof tank |
| AD-401 | T-7 | Miscellaneous Monomer/Polymer Tanks: 28 Fixed roof tanks ranging from 12,000 gallons to 20,000 gallons |
| | T-9 through T-10 | |
| | T-401 through T-404 | |
| | T-801 through T-829 | |
| | T-901 through T-909 | |
| AD-601 | CS1-AMA | Maleic Anhydride Tank: 7,925-gallon fixed roof tank venting to either Scrubber (AC-511) or atmosphere |
| AD-602 | CS1-SAS | SAS Monomer/MAS Polymer Tank: 12,500-gallon fixed roof tank |
| AD-603 | CS1-MAS | SAS Monomer/MAS Polymer Tank: 12,500-gallon fixed roof tank |
| AD-604 | CP1-APS | Ammonium Persulfate Solution/Sodium Persulfate Solution Tank: 528-gallon fixed roof tank |
| AD-605 | CP1-EDTA | EDTA Tetrasodium Solution Tank: 528-gallon fixed roof tank |
| AD-606 | CS1-EL | Was Water/SAS Shutdown Tank: 10,281-gallon fixed roof tank venting to either Scrubber (AC-510) or atmosphere |
| AD-607 | CS2-EL | Was Water/MAS Shutdown Tank: 10,281-gallon fixed roof tank |
| AD-830 | -- | Hazardous Waste Tank: 2,100-gallon fixed roof tank with emissions routed to Thermal Oxidizer (AB-100) |

| | | |
|---|---|---|
| | | Tank contains unreacted allyl chloride, salt, and reaction byproducts |
| AD-831 | -- | Hazardous Waste Tank: 6,000-gallon fixed roof tank with emissions routed to Thermal Oxidizer (AB-100)<br>Tank contains unreacted allyl chloride, salt, and reaction byproducts |
| FUG | -- | Fugitives from Equipment Leaks |
| MISC | -- | Fugitive emissions from equipment upkeep, general maintenance, and low emitting activities including empty container washing, tank cleanout, relief valve maintenance, laboratory hoods, and portable fixed roof frac tanks for storage of monomer and polymer products. |

## SECTION 3
## EMISSION LIMITATIONS AND STANDARDS

| Emission Point | Applicable Requirement | Condition Number(s) | Pollutant/ Parameter | Limitation/Standard |
|---|---|---|---|---|
| Facility-Wide | 11 Miss. Admin. Code Pt. 2, R. 1.3.A. | 3.1 | Opacity | 40% |
| | 11 Miss. Admin. Code Pt. 2, R. 1.3.B. | 3.2 | Opacity | Equivalent Opacity |
| | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.3 | Production Rate | Production is limited to the following:<br>*DADMAC Monomer* - 447 MMlb/yr<br>*Polyamine* - 300 MMlb/yr<br>*EDC-Ammonia Polyamine - 8.0 MMlb/yr*<br>*SAS – 34.8 MMlb/yr*<br>*MAS – 34.8 MMlb/yr* |
| AA-001<br>AA-002<br>AA-005 | 40 CFR 60, Subpart Dc<br><br>New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units<br><br>40 CFR 60.40c(a), Subpart Dc | 3.4 | $SO_2$ | Applicability |
| | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.5 | Fuel Requirement | Shall only use natural gas as fuel |
| AA-004 | 40 CFR 63, Subpart ZZZZ<br><br>National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines<br><br>40 CFR 63.6585 & 63.6590(c), Subpart ZZZZ | 3.6 | VOC<br>HAP | Applicability – Shall comply with 40 CFR Part 60, Subpart IIII |
| | 40 CFR 60, Subpart IIII<br><br>New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines (CI ICE)<br><br>40 CFR 60.4200(a)(2)(i), Subpart IIII | 3.7 | NMHC<br>NOx<br>CO<br>PM | Applicability |
| | 40 CFR 60.4205(b), 40 CFR 60.4202(a)(2), Subpart IIII<br>40 CFR 1039 Appendix I | 3.8 | | Emission Standards |

| | | | | |
|---|---|---|---|---|
| | 40 CFR 60.4207(b), Subpart IIII<br>40 CFR 1090.305 | 3.9 | Fuel Requirement | Diesel fuel standards:<br>a) Max sulfur content of 15 ppm, and<br>b) Minimum cetane index of 40 or a maximum aromatic content of 35 volume percent |
| | 40 CFR 60.4209(a), Subpart IIII | 3.10 | Hours of Operation | Install a non-resettable hour meter |
| | 40 CFR 60.4211(c), Subpart IIII | 3.11 | NOx<br>CO | Initial Compliance – Purchase certified engine |
| | 40 CFR 60.4211(f), Subpart IIII | 3.12 | Hours of Operation | Operating Requirements |
| AA-050 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.13 | HAP | Operational Requirement |
| AA-100 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.14 | HAP | Operational Requirement |
| AA-401 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.15 | HAP | Operational Requirement |
| AA-530 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.16 | $SO_2$ | Operational Requirement |
| AB-100<br>AB-200 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.17 | HAP | Shall maintain a minimum combustion chamber temperature of 1,500 ºF. |
| | | 3.18 | | Operational Requirement |
| AC-100 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.19 | HAP | Operational Requirement |
| AC-101 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.20 | HAP | Operational Requirement |
| AC-200 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.21 | HAP | Operational Requirement |
| AC-511 | 11 Miss. Admin. Code Pt. 2, R. 1.4.B(1). | 3.22 | $SO_2$ | < 500 ppmv $SO_2$ |
| | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.23 | $SO_2$ | Operational Requirement |
| AD-001<br>AD-002<br>AD-003<br>AD-004<br>AD-018<br>AD-032<br>AD-036 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.24 | Pressure | > 204.9kPa (29.7 psia)<br>(NSPS, Subpart Kb exemption requirement) |

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|---|---|---|---|---|
| AD-001<br>AD-002<br>AD-003<br>AD-004<br>AD-011<br>AD-013<br>AD-032<br>AD-036 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.25 | HAP | Shall be equipped with a dedicated vapor balance service. |
| AD-006 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.26 | HAP | Vent emissions to scrubber (AC-400) |
| AD-830<br>AD-831 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 3.27 | HAP | Vent emission to scrubber (AB-100 or AB-200) |

3.1. For the entire facility, except as otherwise specified or limited herein, the permittee shall not cause, permit, or allow the emission of smoke from a point source into the open air from any manufacturing, industrial, commercial or waste disposal process which exceeds forty (40) percent opacity. Startup operations may produce emissions which exceed 40% opacity for up to fifteen (15) minutes per startup in any one hour and not to exceed three (3) startups per stack in any twenty-four (24) hour period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.A.)

3.2. For the entire facility, except as otherwise specified or limited herein, the permittee shall not cause, allow, or permit the discharge into the ambient air from any point source or emissions, any air contaminant of such opacity as to obscure an observer's view to a degree in excess of 40% opacity, equivalent to that provided in Condition 3.1. This shall not apply to vision obscuration caused by uncombined water droplets.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.3.B.)

3.3. For the entire facility, the permittee shall be limited to the production rates listed below:

| Product | Production Rate (MMlb/yr) |
|---|---|
| DADMAC Monomer | 447 |
| Polyamine | 300 |
| EDC-Ammonia Polyamine | 8.0 |
| SAS | 34.8 |
| MAS | 34.8 |

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.4. For Emission Points AA-001, AA-002, and AA-005, the permittee is subject to and shall comply with all applicable requirements of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60, Subpart Dc) and applicable provisions of the General Provisions (40 CFR Part 60, Subpart A)

(Ref.: 40 CFR 60.40c(a), Subpart Dc)

3.5. For Emission Points AA-001, AA-002, and AA-005, the permittee shall only combust natural gas as fuel.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.6. For Emission Point AA-004, the permittee is subject to and shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ). Emission Point AA-004 meets the definition of a new affected source at an area source under NESHAP Subpart ZZZZ and must meet the requirements of this part by meeting the requirements of 40 CFR Part 60, Subpart IIII for compression ignition engines. No further requirements apply for such engines under NESHAP Subpart ZZZZ.

(Ref.: 40 CFR 63.6585 and 40 CFR 63.6590(c), Subpart ZZZZ)3.7 For Emission Point AA-004, the permittee is subject to and shall comply with all applicable requirements of the New Source Performance Standards (NSPS) for Stationary Emergency Compression Ignition Internal Combustion Engines (CI ICE) (40 CFR Part 60, Subpart IIII) and shall comply with the General Provisions (40 CFR Part 60, Subpart A) as required in Table 8 to NSPS Subpart IIII.

(Ref.: 40 CFR 60.4200(a)(2)(i), Subpart IIII)

3.8. For Emission Point AA-004, the permittee shall comply with the following emissions standards for new, non-road CI engines, for all pollutants, for the same model year and maximum engine power:

(a) NMHC + NOx – 6.4g/kW-hr

(b) CO – 3.5g/kW-hr

(c) PM – 0.20g/kW-hr

(Ref.: 40 CFR 60.4202(a)(2), 40 CFR 60.4205(b), Subpart IIII and 40 CFR 1039 Appendix I)

3.9. For Emission Point AA-004, the permittee shall use only diesel fuel that meets the following requirements for non-road diesel:

(a) A maximum sulfur content of 15 ppm, and

(b) A minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

(Ref.: 40 CFR 60.4207(b), Subpart IIII and 40 CFR 1090.305)

3.10. For Emission Point AA-004, the permittee shall install a non-resettable hour meter prior to startup of the engine, if one is not already installed.

(Ref.: 40 CFR 60.4209(a), Subpart IIII)

3.11. For Emission Point AA-004, the engine shall be certified to the emission standards in Condition 3.8 and shall be installed and configured according to the manufacturer's emission-related specifications.

(Ref.: 40 CFR 60.4211(c), Subpart IIII)

3.12. For Emission Point AA-004, the permittee shall operate the emergency stationary ICE according to the requirements in (a) through (c) below. In order for the engines to be considered an emergency stationary ICE under 40 CFR 60 Subpart IIII, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described below, is prohibited. If you do not operate the engine according to the requirements below, the engine will not be considered an emergency engine and must meet all requirements for non-emergency engines.

(a) There is no time limit on the use of emergency stationary ICE in emergency situations.

(b) Emergency stationary ICE may be operated for maintenance checks and readiness testing for a maximum of a 100 hours per calendar year, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the DEQ for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indication that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(c) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency

demand response, or the generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(Ref.: 40 CFR 60.4211(f), Subpart IIII)

3.13. For Emission Point AA-050, the permittee shall vent all emissions from the reactors (R-801 through R-804, R-809, and R-810), except the initial nitrogen purge, to thermal oxidizer TO-100 or TO-200 (Emission Point AB-100 or AB-200). Also, emissions from the organics vessel (V-804) and the AOH/Water vessel (V-805) shall be vented to thermal oxidizer (Emission Point AB-100).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.14. For Emission Point AA-100, the permittee shall vent all emissions from the reactors (R-901 through R-904), except the initial nitrogen purge, to scrubber SC-901 (Emission Point AC-101).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.15. For Emission Point AA-401, the permittee shall vent all emissions from the reactor (R-401) and the distillation column (D-401), except the initial nitrogen purge, to thermal oxidizer TO-100 (Emission Point AB-100) or TO-200 (Emission Point AB-200).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.16. For Emission Point AA-530, the permittee shall vent all emissions from the equipment associated with SAS production and the SAS/MAS Storage Tank (CS1-SAS) to scrubber LQ10-SC1 (Emission Point AC-510). The permittee shall vent all emissions from the equipment associated with MAS polymer production/neutralization and the maleic anhydride storage tank (CS1-AMA) to scrubber LQ10-SC2 (Emission Point AC-511).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.17. For Emission Point AB-100, the permittee shall maintain a minimum combustion chamber temperature of 1,500 degrees Fahrenheit at all times when emissions may be vented to the thermal oxidizers. For Emission Point AB-200, the permittee shall maintain a minimum combustion chamber temperature in accordance with manufacturer recommendations.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.18. For Emission Points AB-100 and AB-200, the permittee shall vent all emissions from thermal oxidizer TO-100 (Emission Point AB-100) to scrubber S-TO100 (Emission Point AC-100). The permittee shall vent all emissions from thermal oxidizer TO-200 (Emission Point AB-200) to scrubber S-TO200 (Emission Point AC-200).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.19. For Emission Point AC-100, the permittee shall maintain a minimum scrubber water flow rate of 10 gallons per minute (gpm) in the packed tower section.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.20. For Emission Point AC-101, the permittee shall maintain a minimum scrubber water flow rate of 3.0 gallons per minute (gpm) in the packed tower section.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.21. For Emission Point AC-200, the permittee shall install a flow meter for continuously measuring the flow rate through the packed tower section of the scrubber when thermal oxidizer TO-200 (Emission Point AB-200) is operating. Upon installation, per manufacturer's recommendations, the permittee shall determine the minimum scrubbant flow rate required to determine compliance with the permit. The flow meter shall be maintained per the manufacturer's specifications.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.22. For Emission Point AC-511, except as otherwise provided herein, no person shall cause or permit the emission of gas containing sulfur oxides (measured as sulfur dioxide) in excess of 500 ppm (volume) from any process equipment constructed after January 25, 1972. The 500 ppm (volume) requirement shall apply for equipment constructed after January 25, 1972 unless otherwise provided by the Commission.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 1.4.B(1).)

3.23. For Emission Point AC-511, the permittee shall maintain a minimum scrubbant flow rate of 14.2 gallons per minute (gpm) in the packed tower section while in operation during $SO_2$ venting operations.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.24. For Emission Points AD-001, AD-002, AD-003, AD-004, AD-018, AD-032, and AD-036, the permittee shall maintain the design pressure of these tanks above 204.9 kPa (29.7 psia) and shall not allow venting under normal operation.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.25. For Emission Points AD-001, AD-002, AD-003, AD-004, AD-011, AD-013, AD-032, and AD-036, the permittee shall equip these tanks with dedicated vapor balance service for tank loading operations.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

3.26. For Emission Point AD-006, the permittee shall vent all emissions from the tank to the scrubber SC-T6 (Emission Point AC-400).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).

3.27. Emission Points AD-830 and AD-831, the permittee shall vent all emissions from the tanks to thermal oxidizer TO-100 (Emission Point AB-100) or TO-200 (Emission Point AB-200).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

## SECTION 4
## WORK PRACTICES

| Emission Point | Applicable Requirement | Condition Number(s) | Pollutant/ Parameter | Work Practice |
|---|---|---|---|---|
| Facility-Wide | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10). | 4.1 | | Shall maintain at all times sufficient equipment necessary to repair or overhaul pollution control equipment. Operations shall cease until repairs are made. |
| AA-004 | 40 CFR 60.4206, 40 CFR 60.4211(a), Subpart IIII | 4.2 | | Shall operate and maintain the engine according to the manufacturer's written instructions |
| AC-100<br>AC-101<br>AC-200<br>AC-400<br>AC-511 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 4.3 | | Maintain and implement maintenance plan |

4.1. For the entire facility, the permittee shall maintain on hand at all times sufficient equipment as is necessary to repair and/or overhaul the pollution control equipment. In the event of a failure of the pollution control equipment, the permittee shall cease operation of any equipment venting to the control equipment until such time as repairs are made and the proper efficiency of the pollution control equipment is restored.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(10).)

4.2. For Emission Point AA-004, the permittee must operate and maintain the engine according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer over the entire life of the engine. In addition, the permittee may only change those settings that are permitted by the manufacturer.

(Ref.: 40 CFR 60.4206, 40 CFR 60.4211(a), Subpart IIII)

4.3. For Emission Points AC-100, AC-101, AC-200, AC-400, and AC-511, the permittee shall maintain and implement a written maintenance plan for the scrubbers, including a thorough inspection of the scrubbers to be conducted every calendar year not to exceed 13 months from the previous inspection. The plan shall include procedures for evaluating the scrubbant distribution through the tower section and the condition of any mist eliminators.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

## SECTION 5
## MONITORING AND RECORDKEEPING REQUIREMENTS

| Emission Point | Applicable Requirement | Condition Number(s) | Pollutant/ Parameter | Monitoring/Recordkeeping Requirement |
|---|---|---|---|---|
| Facility-Wide | 11 Miss. Admin. Code Pt. 2, R. 2.9. | 5.1 | Recordkeeping | Maintain records for a minimum of 5 years. |
| | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 5.2 | Recordkeeping | Maintain records of monthly production rate to be used in the total lb/yr (12 consecutive months). |
| AA-001<br>AA-002<br>AA-005 | 40 CFR 60.48c(g)(2) and 40 CFR 60.48c(i), Subpart Dc | 5.3 | Recordkeeping | Maintain records of the amount of fuel combusted during each calendar month |
| AA-004 | 40 CFR 60.4214(b), Subpart IIII | 5.4 | Monitoring | Maintain logs of hours of operation |
| AB-100<br>AB-200 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 5.5 | Monitoring | Continuously monitor the temperature of the combustion chambers. |
| | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 5.6 | Recordkeeping | Maintain logs of temperatures and maintenance |
| AC-100<br>AC-101<br>AC-200<br>AC-511 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 5.7 | Recordkeeping | Maintain inspection logs |
| AC-100<br>AC-101<br>AC-200<br>AC-511 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 5.8 | Monitoring | Maintain flow meter |

5.1. The permittee shall retain all required records, monitoring data, supporting information and reports for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings or other data for continuous monitoring instrumentation, and copies of all reports required by this permit. Copies of such records shall be submitted to the DEQ as required by Applicable Rules and Regulations or this permit upon request.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.9.)

5.2. The permittee shall maintain records of the monthly production rate of each polymer in lb/month and shall use these records to calculate the total in lbs/yr for each consecutive 12-month period.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.3. For Emission Points AA-001, AA-002, and AA-005, the permittee shall maintain records of the amount of natural gas combusted during each calendar month. These records shall be maintained for a period of two years following the date of each record.

(Ref.: 40 CFR 60.48c(g)(2) and 40 CFR 60.48c(i), Subpart Dc)

5.4. For Emission Point AA-004, the permittee shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(Ref.: 40 CFR 60.4214(b), Subpart IIII)

5.5. For Emission Points AB-100 and AB-200, the permittee shall install and operate a measuring device for continuously monitoring the combustion chamber temperature when emissions may be vented to the thermal oxidizer. The measuring device shall be maintained per the manufacturer's specifications.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.6. For Emission Points AB-100 and AB-200, the permittee shall continuously record the combustion chamber temperatures in degrees Fahrenheit. These records shall include the date and time that the temperature was recorded and shall be maintained in electronic log form. Should no emissions be vented to the thermal oxidizer during a calendar day, the permittee shall note such in the log.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.7. For Emission Points AC-100, AC-101, AC-200, AC-400, and AC-511, a log of each inspection required in Condition 4.3 shall be maintained onsite and shall indicate any problems noted (e.g. corrosion) and any maintenance actions taken (e.g., replacement of mist eliminator or scrubbant change).

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

5.8. For Emission Points AC-100, AC-101, AC-200, and AC-511, the permittee shall maintain each flow meter for continuous monitoring per the manufacturer's specifications.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

## SECTION 6
## REPORTING REQUIREMENTS

| Emission Point | Applicable Requirement | Condition Number(s) | Reporting Requirement |
|---|---|---|---|
| Facility-Wide | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 6.1 | Report permit deviations within five (5) working days. |
| | | 6.2 | Submit certified annual monitoring report. |
| | | 6.3 | All documents submitted to the DEQ shall be certified by a Responsible Official. |
| | | 6.4 | Submit production rates |
| AC-100<br>AC-101<br>AC-200 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 6.5 | Maintain and report scrubbant deviations |
| AC-511 | 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11). | 6.6 | |

6.1 Except as otherwise specified herein, the permittee shall report all deviations from permit requirements, including those attributable to upsets, the probable cause of such deviations, and any corrective actions or preventive measures taken. Said report shall be made within five (5) working days of the time the deviation began.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.2 Except as otherwise specified herein, the permittee shall submit a certified annual synthetic minor monitoring report postmarked no later than 31st of January for the preceding calendar year. This report shall address any required monitoring specified in the permit. All instances of deviations from permit requirements must be clearly identified in the report. Where no monitoring data is required to be reported and/or there are no deviations to report, the report shall contain the appropriate negative declaration.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.3 Any document required by this permit to be submitted to the DEQ shall contain a certification signed by a responsible official stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.4. For the entire facility, the permittee shall submit the total production rates calculated monthly for each product in accordance with Condition 6.2.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).

6.5. For Emission Points AC-100, AC-101, and AC-200, the permittee shall continuously record the water flow rate through the scrubber in gpm. These records shall include the date and time that the flow was recorded and shall be maintained in written or electronic log form. Should no emissions be vented through the scrubber, the permittee shall note such in the log. The facility shall report any deviations below the minimum flow rate in accordance with Condition 6.2.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)

6.6. For Emission Point AC-511, when $SO_2$ emissions from MAS production are being routed to the scrubber, the permittee shall continuously record the scrubbant flow rate through the scrubber in gpm. These records shall include the date and time that the flow was recorded and shall be maintained in written or electronic log form. Should no MAS production $SO_2$ emissions be vented through the scrubber during a calendar day, the permittee shall note such in the log. The facility shall report any deviations below the minimum flow rate in accordance with Condition 6.2.

(Ref.: 11 Miss. Admin. Code Pt. 2, R. 2.2.B(11).)