

# ADEQ MINOR SOURCE AIR PERMIT

Permit #: 821-AR-5

IS ISSUED TO:

Ashland Chemical Company  
1901 Redmond Road  
Jacksonville, AR 72076  
Pulaski County  
CSN: 60-0416

THIS PERMIT IS YOUR AUTHORITY TO CONSTRUCT, MODIFY, OPERATE, AND/OR MAINTAIN THE EQUIPMENT AND/OR FACILITY IN THE MANNER AS SET FORTH IN THE DEPARTMENT'S MINOR SOURCE AIR PERMIT AND YOUR APPLICATION. THIS PERMIT IS ISSUED PURSUANT TO THE PROVISIONS OF THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT (ARK. CODE ANN. SEC. 8-4-101 ET SEQ.) AND THE REGULATIONS PROMULGATED THEREUNDER, AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

---

Keith A. Michaels

Date Modified

**SECTION I: FACILITY INFORMATION**

PERMITTEE: Ashland Chemical Company  
CSN: 60-0416  
PERMIT NUMBER: 821-AR-5

FACILITY ADDRESS: 1901 Redmond Road  
Jacksonville, AR 72076

COUNTY: Pulaski

CONTACT POSITION: Environmental Engineer  
TELEPHONE NUMBER: (501) 982-6586

REVIEWING ENGINEER: David Triplett

UTM North-South (X): Zone 15 3858.4 km

UTM East-West (Y): Zone 15 581.7 km

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

## **SECTION II: INTRODUCTION**

### **Summary**

Ashland Chemical Company owns and operates a polyester and thermoplastic resin manufacturing facility located at 1901 Redmond Road in Jacksonville, Pulaski County, Arkansas. This permitting action is being issued to allow for the replacement of the plastic curing oven (PCO) process with a new POLYM process which utilizes a catalyst to solidify the non-usable resin and waste filter socks generated from the facility. Emissions from the new POLYM process will be routed to the same carbon bed which was previously used to control emissions from the PCO. There are no increases in permitted emissions with this modification.

### **Process Description**

Ashland manufactures unsaturated polyester resins by reacting organic acids with glycols in the presence of various catalytic and inhibiting agents. The inhibiting agents are dry materials. The resins are prepared via a batch process using three reactor tanks by polyesterification of phthalic and maleic anhydrides and propylene glycol.

Polyester resin is produced by esterifying dibasic acids with glycols at elevated temperatures in a reactor under an inert atmosphere and dissolving the linear chain ester in a tank containing an unsaturated monomer of cross-linking agent which is typically styrene. The dibasic acids used in the process are maleic anhydride (MA), phthalic anhydride (PA), and isophthalic acid. The glycols used are ethylene glycol, propylene glycol, dipropylene glycol, neopentyl glycol, and butylene glycol. Dicyclopentadiene is also a common reactant in certain resin formulations. Styrene, vinyl toluene, and methyl methacrylate are the most widely used monomers.

The Jacksonville plant has three reactors fired by radiant heat gas-fired burners (emissions from the burners are emitted through SN-06, SN-07, and SN-08). The reactor heats up automatically limited by a temperature controller in the overhead vapor system to prevent loss of low boiling glycols. Each reactor is equipped with cooling coils and an agitator. Glycol, maleic anhydride, and phthalic anhydride are sequentially metered into the reactor which has been purged with nitrogen to remove all traces of air. The reactor is heated with continuous agitation to a temperature of 230EF. At approximately 200EF, the heating cycle is interrupted while the reaction exotherms. Once the exotherm is finished, the batch is further heated up to 400EF.

Vapors which are generated from the reaction contain water, glycol, and maleic anhydride. These vapors pass through a packed column followed by a condenser; this combination is designed to separate the water from the glycol. The condensate and uncondensed vapors are sent to the thermal oxidizer for destruction of the organics. The outlet of the scrubber is also tied into to thermal oxidizer (T.O.). Glycols separated from the water vapor are returned to the reactor.

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

In the past when the T.O. went down, venting was automatically transferred to the carbon beds (SN-09). In March 1996 the plant instituted new operating procedures that allow the vapor from the reactors to be isolated from the reactor carbon beds when the T.O. incinerator is off-line. The procedure is to turn off the reactor heater, set the nitrogen blanket at 5 scfm and close the column valve. If pressure in the reactor builds to 25 psig, the column valve is cracked open to relieve pressure and then closed once again. This procedure minimizes loading of the carbon beds.

After the reaction is complete, the product is transferred to one of six "thin" tanks where it is cooled and diluted with styrene monomer, allyl or vinyl monomers, or methylacrylate. Once this reaction is complete, the material flows to the blend tanks. The resulting mixture is the finished product which is then loaded into totes, tank trucks, and drums for shipment (emissions from the drumming operation are vented through SN-12).

Organic emissions from the process are controlled by a T.O. operated at a minimum of 1400EF, at which the organics destruction efficiency is estimated at 95%. Associated with the T.O. is a waste heat boiler which can generate process steam from the T.O. exhaust gases. Two atmospheric vents are associated with the T.O., one operating when the waste heat boiler is on line (SN-01), and the other when the waste heat boiler is offline (SN-02). Both vents may be open simultaneously, but the emissions remain the same, as the air stream is coming from the T.O. and no other emission streams are introduced into the waste heat boiler.

The T.O./Waste Heat Boiler is not subject to NSPS Subpart Dc because the T.O. fits the definition of a process heater as defined in the Subpart, which is exempted in the definition of a steam generating unit. The T.O. is a device that is used to heat to an incineration temperature the waste material, therefore satisfying the definition of a process heater. Also, the T.O. does not contain a duct burner as defined in the Subpart. It can be concluded that the T.O. at this facility is not classified as a steam generating unit pursuant to the definitions in NSPS Subpart Dc.

Activated carbon beds provided alternate treatment of exhaust gases when the T.O. is down. One carbon bed treats reactor gases (SN-09); the other treats gases vented from the storage, blend, and thin tanks (SN-10). Both of these carbon beds operate only when the T.O. is not operational.

All reactors, cooling tanks, thin tanks, blend tanks, and finished product tanks are vented to the T.O. Powdered materials are added into the thin and blend tanks. These tanks are located indoors, therefore the particulate emissions released to the atmosphere from this operation are negligible. Byproduct aqueous streams are routed through a distillate tank where they are neutralized with ammonia. The liquid is then pumped to the T.O. where it is vaporized and oxidized to remove entrained or soluble organics. Three additional water sources that are

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

vaporized and oxidized in the T.O. are stormwater which collects in the distillate tank, floor washing water, and water generated during the cleaning of the tanks. Due to the low organic content and the low volume of these three additional sources, the emissions are negligible. Some raw material tanks are vented to the T.O.; others vent to the atmosphere. The tank vents that vent to the atmosphere are SN-16, SN-17, SN-18, SN-23, SN-24, SN-25, and SN-26. Other emission points include vents from two natural gas boilers (SN-04 and SN-04), a glycol weigh tank (SN-11), and a bulk loading vent (SN-15). Fugitive emissions from valves, flanges, pump seals, wastewater, etc. have also been calculated for the facility (SN-21).

For two weeks each year the T.O. is shut down for maintenance. The three reactors also shut down for this period; however, the plant continues to blend product from the stockpiled base resin. During this two week period these operations vent to the atmosphere or are controlled by the carbon beds.

Unstable gelled styrene, as well as residual styrene contained in bags and filters, is solidified by a catalyst used in conjunction with a mechanical agitator prior to disposal in a non-hazardous landfill. This is known as the POLYM process (SN-22). Emissions from this process are routed to a carbon bed for organic emissions control.

### **Regulations**

Emissions from the facility include particulate matter (PM/PM<sub>10</sub>) primarily as a byproduct of combustion; sulfur dioxide (SO<sub>2</sub>) as a by product of combustion; volatile organic compounds (VOC) from process vents and fugitive sources, as well as from combustion; carbon monoxide (CO) as a byproduct of combustion, and oxidizes of nitrogen (NO<sub>x</sub>) which are byproducts of combustion. Some of the VOCs are hazardous air pollutants (HAPs), but the facility does not emit enough HAPs to classify it as a major source of HAP emissions. The facility is classified as one of 28 source categories which are considered a major stationary source at an emission rate greater than 100 tons per year of a single criteria pollutant. Currently, the facility does not emit in excess of 30 tons per year of any criteria pollutant, therefore it is far below the level which would make it a major stationary source.

The maleic anhydride tank (Tank #1)(SN-23) and the phthalic anhydride tank (Tank #3)(SN-24) are subject to the record keeping requirements outlined in the New Source Performance Standard ("NSPS") Subpart Kb. Each of these two tanks has a working capacity of 38,000 gallons (98% of total capacity). The maleic anhydride stored in Tank #1 (SN-23) has a vapor pressure of less than 10 mm Hg (3.73 Kpa) at 140EF and the phthalic anhydride stored in Tank #3 (SN-24) has a vapor pressure of 28 mm Hg (3.73 Kpa) at 320EF. According to 40 CFR 60.110b(c) of Subpart Kb, only paragraphs (a) and (b) of §60.116b apply to tanks #1 and #3. Ashland must maintain readily accessible records showing the dimensions of tanks #1 and #3 and an analysis showing the capacity of each of these storage vessels. The records shall be maintained for the life of the

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

tank.

The emissions from Tank 1 and Tank 3 are controlled by a glycol scrubber.

This facility is subject to regulation under the Arkansas Air Pollution Control Code (Regulation 18), the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19), and applicable provisions of 40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels*.

The following table is a summary of the facility's total emissions.

| TOTAL ALLOWABLE EMISSIONS                           |                |      |
|---|----------------|------|
| Pollutant   | Emission Rates |      |
|   | lb/hr          | tpy  |
| PM  | 0.7            | 1.9  |
| PM <sub>10</sub>                                    | 0.7            | 1.9  |
| SO <sub>2</sub>                                     | 0.6            | 0.6  |
| VOC   | 24.9           | 25.8 |
| CO  | 5.9            | 25.6 |
| NO <sub>x</sub>                                     | 5.6            | 23.8 |
| Styrene   | 7.5            | 8.3  |
| PA <sup>1</sup> , MA <sup>2</sup> , GC <sup>3</sup> | 9.2            | 7.6  |

- 1 - Phthalic Anhydride
- 2 - Maleic Anhydride
- 3 - Glycols

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

### **SECTION III: PERMIT HISTORY**

Permit #170-A was issued to W.R. Grace and Company, a Marco Chemical Division, on September 28, 1973.

A thermal oxidizer ("T.O.") was installed in 1976 (permit #292-A) to incinerate the scrubber liquids which formerly were discharged to the Jacksonville wastewater treatment plant.

Permit #504-A was assigned to USS Chemicals to reflect a change in ownership from W.R. Grace to USS Chemicals on March 23, 1979.

Permit #504-AR-1 was issued to USS Chemicals on May 23, 1983 to include installation of a charcoal filter on the incinerator bypass.

Permit #504-AR-2 was assigned to USS Chemicals on September 11, 1985, to include replacement of the existing T.O. with a more efficient system which consisted of a waste heat recovery boiler.

Permit #821-A was issued to Aristech Chemical Corporation to reflect a change of ownership from USS Chemicals to Aristech Chemical Corporation on June 5, 1987. Solid accumulator boxes (SN-C2)(SN-11 in this permit) were installed to control emissions from the maleic and phthalic anhydride weigh tanks.

Permit #821-AR-1 was issued January 3, 1991, to include two gas-fired boilers, to eliminate maleic anhydride and phthalic anhydride as VOC emission points due to their low vapor pressure (less than 0.1 mm Hg), to include the addition of a second carbon filter, to reflect increases in capacity, and to use ammonia gas for pH adjustment of the distillate wastes at the facility.

Permit #821-AR-2 was issued January 8, 1996, to address the change in ownership from Aristech Chemical Corporation to Ashland Chemical Company, to remove and replace Tank #1 (SN-23), modifications to the T.O. included replacing the 4 MM BTU burner with a 10 MM BTU burner, installing a waste heat boiler, increasing the residence time from 0.5 of a second to 1 second, and upgrading the control system.

Permit #821-AR-3 incorporated the following additions and changes:

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

- Increase the throughput limits for six raw materials.
- Permit certain tanks to store “glycol” rather than specific glycol products to allow flexibility.
- Modify carbon bed testing requirements.
- Include emission sources inadvertently missed in prior permits.
- Permit all natural gas fueled equipment at their potential to emit (pte) and removing the limits on natural gas usage.
- Replace the phthalic anhydride storage tank (Tank 3)(SN-24). The new tank is subject to NSPS regulation 40 CFR Part 60, Subpart Kb. Ashland must maintain records showing the dimensions of tanks #1 and #3 and an analysis showing the capacity of each of these storage vessels. The records must be maintained for the life of the tank.
- The installation of a glycol scrubber to control emissions from Tank 1 (SN-32) and Tank 3 (SN-24).



Ashland Chemical Company  
 Permit #: 821-AR-5  
 CSN: 60-0416

**SECTION IV: EMISSION UNIT INFORMATION**

**Specific Conditions**

1. Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, effective February 15, 1999 (Regulation 19) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table.

| SN              | Description   | Pollutant        | lb/hr | tpy  |
|-----------------|---|------------------|-------|------|
| 01<br>and<br>02 | Thermal Oxidizer/Waste Heat Boiler (10 MM BTU/hr) SN-01, Waste Heat Boiler SN-02.<br><br>Controlling :reactor overhead vent, cooling tanks (2), thin tanks overhead vents (6), liquid distillate receivers, blend tanks (BT-8), Storage tanks 2, 6, 7, 9, 12, 14, 15, 17, 18, 19, 20, and 21. | PM <sub>10</sub> | 0.2   | 0.6  |
|                 |   | SO <sub>2</sub>  | 0.1   | 0.1  |
|                 |   | VOC              | 3.3   | 14.3 |
|                 |   | CO               | 5.3   | 23.3 |
|                 |   | NO <sub>x</sub>  | 3.3   | 14.2 |
| 03              | Tanks 4 and 16 are redesignated SN-25 and SN-26.  |                  |       |      |
| 04              | Boiler #1 (3.35 MM BTU/hr) (Installed 1972)   | PM <sub>10</sub> | 0.1   | 0.2  |
|                 |   | SO <sub>2</sub>  | 0.1   | 0.1  |
|                 |   | VOC              | 0.1   | 0.2  |
|                 |   | CO               | 0.1   | 0.4  |
|                 |   | NO <sub>x</sub>  | 0.4   | 1.5  |
| 05              | Boiler #2 (3.35 MM BTU/hr) (Installed 1972)   | PM <sub>10</sub> | 0.1   | 0.2  |
|                 |   | SO <sub>2</sub>  | 0.1   | 0.1  |
|                 |   | VOC              | 0.1   | 0.2  |
|                 |   | CO               | 0.1   | 0.4  |
|                 |   | NO <sub>x</sub>  | 0.4   | 1.5  |
| 06              | Reactor #1 Burner (6.7 MM BTU/hr) (Installed 1972)  | PM <sub>10</sub> | 0.1   | 0.4  |
|                 |   | SO <sub>2</sub>  | 0.1   | 0.1  |
|                 |   | VOC              | 0.1   | 0.3  |
|                 |   | CO               | 0.2   | 0.7  |
|                 |   | NO <sub>x</sub>  | 0.7   | 3.0  |

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

| SN | Description  | Pollutant                         | lb/hr | tpy |
|----|--|-----------------------------------|-------|-----|
| 07 | Reactor #2 Burner<br>(3.9 MM BTU/hr)<br>(Installed 1972) | PM <sub>10</sub>                  | 0.1   | 0.3 |
|    |  | SO <sub>2</sub>                   | 0.1   | 0.1 |
|    |  | VOC                               | 0.1   | 0.2 |
|    |  | CO                                | 0.1   | 0.4 |
|    |  | NO <sub>x</sub>                   | 0.4   | 1.8 |
| 08 | Reactor #3 Burner<br>(3.9 MM BTU/hr)<br>(Installed 1972) | PM <sub>10</sub>                  | 0.1   | 0.3 |
|    |  | SO <sub>2</sub>                   | 0.1   | 0.1 |
|    |  | VOC                               | 0.1   | 0.2 |
|    |  | CO                                | 0.1   | 0.4 |
|    |  | NO <sub>x</sub>                   | 0.4   | 1.8 |
| 09 | Reactor Carbon Bed                                       | VOC                               | 0.1   | 0.2 |
| 10 | Tank Carbon Bed  | VOC                               | 0.1   | 0.1 |
| 11 | Glycol Weigh Tanks                                       | VOC                               | 0.7   | 0.4 |
| 12 | Container Filling (Drumming)                             | VOC                               | 1.7   | 0.6 |
| 13 | Evaporator Drum Vent                                     | Removed in 1995.                  |       |     |
| 14 | Inert Gas Generator                                      | Removed in 1995.                  |       |     |
| 15 | Bulk Loading   | VOC                               | 3.4   | 2.4 |
| 16 | Tank #2 - Diocyclopentadiene                             | Vent routed to T.O.<br>(SN-01/02) |       |     |
| 17 | Tank #5 - Glycol Storage                                 | VOC                               | 0.1   | 0.1 |
| 18 | Tank #8 - Glycol Storage                                 | VOC                               | 0.1   | 0.1 |
| 19 | Tank #9 - Resin Storage                                  | Vent routed to T.O.<br>(SN-01/02) |       |     |
| 20 | Tank #13 - Mixed Glycols                                 | VOC                               | 8.9   | 1.2 |
| 21 | Fugitives VOC Emissions pumps,<br>valves, etc.           | VOC                               | 1.1   | 4.7 |
| 22 | POLYM Process  | VOC                               | 0.1   | 0.1 |
| 23 | Tank #1 - Maleic Anhydride                               | VOC                               | 0.1   | 0.1 |

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

| SN | Description  | Pollutant | lb/hr | tpy |
|----|--|-----------|-------|-----|
|    | (Installed 1995)<br>(38,000 gal)                                 |           |       |     |
| 24 | Tank #3 - Phthalic Anhydride<br>(Installed 1998)<br>(38,000 gal) | VOC       | 0.3   | 0.1 |
| 25 | Tank #4 - Neopentyl Glycol                                       | VOC       | 4.7   | 0.3 |
| 26 | Tank #16 - Glycol Storage  | VOC       | 0.1   | 0.1 |

2. Pursuant to §18.801 of the Arkansas Air Pollution Control Code, effective February 15, 1999 (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table.

| SN              | Description   | Pollutant   | lb/hr             | tpy               |
|-----------------|---|---|-------------------|-------------------|
| 01<br>and<br>02 | Thermal Oxidizer/Waste Heat<br>Boiler (10 MM BTU/hr) SN-01,<br>Waste Heat Boiler SN-02.<br><br>Controlling reactor overhead vent,<br>cooling tanks (2), thin tanks<br>overhead vents (6), liquid distillate<br>receivers, blend tanks (BT-8),<br>Storage tanks 2, 6, 7, 9, 12, 14, 15,<br>17, 18, 19, 20, and 21. | PM<br>Styrene<br>PA <sup>1</sup> , MA <sup>2</sup> ,<br>GC <sup>3</sup> | 0.2<br>1.5<br>1.5 | 0.6<br>2.9<br>1.9 |
| 03              | Tanks 4 and 16 are redesignated SN-25 and SN-26.  |   |                   |                   |
| 04              | Boiler #1 (3.35 MM BTU/hr)<br>(Installed 1972)  | PM  | 0.1               | 0.2               |
| 05              | Boiler #2<br>(3.35 MM BTU/hr)<br>(Installed 1972)   | PM  | 0.1               | 0.2               |
| 06              | Reactor #1 Burner<br>(6.7 MM BTU/hr)<br>(Installed 1972)  | PM  | 0.1               | 0.4               |

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

| SN | Description  | Pollutant   | lb/hr      | tpy        |
|----|--|---|------------|------------|
| 07 | Reactor #2 Burner<br>(3.9 MM BTU/hr)<br>(Installed 1972)       | PM  | 0.1        | 0.3        |
| 08 | Reactor #3 Burner<br>(3.9 MM BTU/hr)<br>(Installed 1972)       | PM  | 0.1        | 0.3        |
| 10 | Tank Carbon Bed  | Styrene   | 0.1        | 0.1        |
| 11 | Glycol Weigh Tanks   | Glycols   | 0.7        | 0.4        |
| 12 | Container Filling (Drumming)                                   | Styrene   | 1.3        | 0.6        |
| 13 | Evaporator Drum Vent   | Removed in 1995.  |            |            |
| 14 | Inert Gas Generator  | Removed in 1995.  |            |            |
| 15 | Bulk Loading   | Styrene   | 3.4        | 2.4        |
| 16 | Tank #2 - Diocyclopentadiene                                   | Vent routed to T.O.<br>(SN-01/02)                                 |            |            |
| 17 | Tank #5 - Glycol Storage                                       | Glycols   | 0.1        | 0.1        |
| 18 | Tank #8 - Glycol Storage                                       | Glycols   | 0.1        | 0.1        |
| 19 | Tank #9 - Resin Storage  | Vent routed to T.O.<br>(SN-01/02)                                 |            |            |
| 20 | Tank #13 - Mixed Glycols                                       | Glycols   | 0.2        | 0.2        |
| 21 | Fugitives VOC Emissions pumps,<br>valves, etc.                 | Styrene<br>PA <sup>1</sup> , MA <sup>2</sup> ,<br>GC <sup>3</sup> | 1.1<br>0.6 | 2.2<br>2.5 |
| 22 | POLYM Process  | Styrene   | 0.1        | 0.1        |
| 23 | Tank #1 - Maleic Anhydride<br>(Installed 1995)<br>(38,000 gal) | Maleic<br>Anhydride   | 0.1        | 0.1        |
| 24 | Tank #3 - Phthalic Anhydride<br>(Installed 1998)               | Phthalic<br>Anhydride   | 0.3        | 0.1        |

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

| SN | Description                | Pollutant | lb/hr | tpy |
|----|----------------------------|-----------|-------|-----|
|    | (38,000 gal)               |           |       |     |
| 25 | Tank #4 - Neopentyl Glycol | Glycols   | 4.7   | 0.3 |
| 26 | Tank #16 - Glycol Storage  | Glycols   | 0.1   | 0.1 |

- 1 - Phthalic Anhydride
- 2 - Maleic Anhydride
- 3 - Glycols

3. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, visible emissions shall not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

| SN      | Limit | Regulatory Citation       |
|---------|-------|---------------------------|
| 01/02   | 5%    | §18.501 of Regulation 18. |
| 04 - 08 | 5%    | §18.501 of Regulation 18. |
| 09 - 26 | 0%    | §18.501 of Regulation 18. |

4. Pursuant to §18.801 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause or permit the emission of air contaminants, including odors or water vapor and including an air contaminant whose emission is not otherwise prohibited by Regulation #18, if the emission of the air contaminant constitutes air pollution within the meaning of A.C.A. §8-4-303.
5. Pursuant to §18.901 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants to become airborne.
6. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not produce more than 120,000,000 pounds of finished resin per consecutive twelve month period.
7. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the following throughput limits during any consecutive twelve month period.

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

| Raw Material or Product | 12 - Consecutive Month Throughput |
|-------------------------|-----------------------------------|
| Maleic Anhydride        | 23,880,000 lbs.                   |
| Phthalic Anhydride      | 9,900,000 lbs.                    |
| Styrene                 | 54,000,000 lbs.                   |
| Dicyclopentadiene       | 17,580,000 lbs.                   |
| Neopentyl Glycol        | 8,760,000 lbs.                    |
| Ethylene Glycol         | 3,480,000 lbs.                    |

8. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain monthly records which demonstrate compliance with Specific Condition 7. Records shall be updated by the fifteenth day of the month following the month to which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request. A twelve month rolling average and each individual month's data shall be kept on site and made available to Department personnel upon request.
9. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall use only pipeline quality natural gas to fuel the process equipment at this facility. The reactors and boilers are permitted for their theoretical maximum. Therefore, no recordkeeping of natural gas is required.
10. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6, the permittee shall continuously operate the thermal oxidizer and monitor the T.O. to maintain a minimum temperature of 1400EF.
11. Pursuant to §19.705 of Regulation 19 and 40 CFR Part 52, the permittee shall maintain continuous records demonstrating compliance with the above condition. Ashland shall record and maintain such data (time, date, cause, circumstances involved, total time of diversion per event, corrective actions taken) for any diversion. These records shall be kept on site and made available to Department personnel upon request.
12. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, and 40 CFR 70.6, the permittee shall assure that when the T.O. is down that emissions are routed to the carbon beds.

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

13. Pursuant to §19.705 of Regulation 19 and 40 CFR Part 52, the permittee shall maintain records of periods when the T.O. is down and emissions are vented to the carbon beds.
14. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall assure the proper operation of the three carbon bed filters used at the facility. The carbon beds shall be changed when the removal efficiency falls below 95%. The following sampling periods shall be observed during operation of the carbon bed filters:
  - a. Reactor Carbon Bed (SN-09): Sample after 300 minutes of venting to a new carbon bed and at 150 minute interval thereafter (Due to the reactors being sealed only the minutes of actual venting to the carbon bed will be counted).
  - b. Tank Carbon Bed (SN-10): Sample after 700 minutes venting to a new carbon bed and at 300 minute intervals thereafter. All T.O. downtime shall be counted.
  - c. POLYM Process Carbon Bed (SN-22): the carbon bed shall be replaced on a frequency which is consistent with and obligated by 40 CFR 264, RCRA Subsection CC, which requires Ashland to maintain detailed design information of the control system, exchange the carbon bed in accordance with the design, and maintain records of the number of drums solidified together with the dates of bed exchanges.
15. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee may vent the blend tanks and thin tanks to the atmosphere while blending and thinning any "in-process" base resin during the scheduled annual maintenance shut-down of the T.O. The T.O. must be restarted and placed in service immediately after completion of the scheduled maintenance. The following conditions shall apply when the tanks are vented to the atmosphere:
  - a. The reactor shall be shut-down and at ambient temperature.
  - b. The product's temperature shall not exceed 120EF during the process.
  - c. Ashland shall not blend more than 2,000,000 pounds of product while venting to the atmosphere.
  - d. Ashland shall maintain records of all blending and thinning operations during the scheduled maintenance shut-down period. The records shall be kept on site, maintained for a period of two years, and shall be provided to Department

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

personnel upon request. These records shall include the following:

- (i) The date and the process time in hours and minutes of each batch.
  - (ii) The quantity of product processed in each batch and the total quantity for the shut-down period.
  - (iii) The maximum process temperature.
16. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the facility shall be limited to venting to the atmosphere 14 days of scheduled maintenance shut-down periods in any calendar year.

**NSPS Requirements**

14. Pursuant to 40 CFR §60.116(b), the permittee shall keep readily accessible records showing the dimensions of, and an analysis showing the capacity of SN-23 and SN-24.



**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

#### **SECTION V: INSIGNIFICANT ACTIVITIES**

The following types of activities or emissions are deemed insignificant on the basis of size, emission rate, production rate, or activity in accordance with Group A of the Insignificant Activities list found in Regulation 18 and 19 Appendix A. Insignificant activity emission determinations rely upon the information submitted by the permittee in an application dated December 14, 1999.

No Insignificant Activities have been identified.

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

## **SECTION VI: GENERAL CONDITIONS**

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.
2. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall not relieve the owner or operator of the equipment and/or the facility from compliance with all applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated thereunder.
3. Pursuant to §19.704 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19) and/or A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the Department shall be notified in writing within thirty (30) days after construction has commenced, construction is complete, the equipment and/or facility is first placed in operation, and the equipment and/or facility first reaches the target production rate.
4. Pursuant to §19.410(B) of Regulation 19 and/or §18.309(B) of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, construction or modification must commence within eighteen (18) months from the date of permit issuance.
5. Pursuant to §19.705 of Regulation 19 and/or §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, records must be kept for five years which will enable the Department to determine compliance with the terms of this permit--such as hours of operation, throughput, upset conditions, and continuous monitoring data. The records may be used, at the discretion of the Department, to determine compliance with the conditions of the permit.

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

6. Pursuant to §19.705 of Regulation 19 and/or §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, any reports required by any condition contained in this permit shall be certified by a responsible official and submitted to the Department at the address below.

Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor  
Post Office Box 8913  
Little Rock, AR 72219

7. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, any equipment that is to be tested, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, shall be tested with the following time frames: (1) Equipment to be constructed or modified shall be tested within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source or (2) equipment already operating shall be tested according to the time frames set forth by the Department. The permittee shall notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. Compliance test results shall be submitted to the Department within thirty (30) days after the completed testing.
8. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall provide:
  - a. Sampling ports adequate for applicable test methods
  - b. Safe sampling platforms
  - c. Safe access to sampling platforms
  - d. Utilities for sampling and testing equipment
9. Pursuant to §19.303 of Regulation 19 and/or §18.1104 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the equipment, control apparatus and emission monitoring equipment shall be operated within their design limitations and maintained in good condition at all times.

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

10. Pursuant to §19.601 of Regulation 19 and/or §18.1101 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, if the permittee exceeds an emission limit established by this permit, they shall be deemed in violation of said permit and shall be subject to enforcement action. The Department may forego enforcement action for emissions exceeding any limits established by this permit provided the following requirements are met:
  - a. The permittee demonstrates to the satisfaction of the Department that the emissions resulted from an equipment malfunction or upset and are not the result of negligence or improper maintenance, and that all reasonable measures have been taken to immediately minimize or eliminate the excess emissions.
  - b. The permittee reports the occurrence or upset or breakdown of equipment (by telephone, facsimile, or overnight delivery) to the Department by the end of the next business day after the occurrence or the discovery of the occurrence.
  - c. The permittee shall submit to the Department, within five business days after the occurrence or the discovery of the occurrence, a full, written report of such occurrence, including a statement of all known causes and of the scheduling and nature of the actions to be taken to minimize or eliminate future occurrences, including, but not limited to, action to reduce the frequency of occurrence of such conditions, to minimize the amount by which said limits are exceeded, and to reduce the length of time for which said limits are exceeded. If the information is included in the initial report, it need not be submitted again.
  
11. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall allow representatives of the Department upon the presentation of credentials:
  - a. To enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of this permit
  - b. To have access to and copy any records required to be kept under the terms and conditions of this permit, or the Act
  - c. To inspect any monitoring equipment or monitoring method required in this permit
  - d. To sample any emission of pollutants
  - e. To perform an operation and maintenance inspection of the permitted source

**Ashland Chemical Company**  
**Permit #: 821-AR-5**  
**CSN: 60-0416**

12. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit is issued in reliance upon the statements and presentations made in the permit application. The Department has no responsibility for the adequacy or proper functioning of the equipment or control apparatus.
13. Pursuant to §19.410(A) of Regulation 19 and/or §18.309(A) of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall be subject to revocation or modification when, in the judgment of the Department, such revocation or modification shall become necessary to comply with the applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated thereunder.
14. Pursuant to §19.407(B) of Regulation 19 and/or §18.307(B) of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit may be transferred. An applicant for a transfer shall submit a written request for transfer of the permit on a form provided by the Department and submit the disclosure statement required by Arkansas Code Annotated §8-1-106 at least thirty (30) days in advance of the proposed transfer date. The permit will be automatically transferred to the new permittee unless the Department denies the request to transfer within thirty (30) days of the receipt of the disclosure statement. A transfer may be denied on the basis of the information revealed in the disclosure statement or other investigation or, if there is deliberate falsification or omission of relevant information.
15. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall be available for inspection on the premises where the control apparatus is located.
16. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit authorizes only those pollutant emitting activities addressed herein.
17. Pursuant to Regulation 18 and 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit supersedes and voids all previously issued air permits for this facility.

# **ATTACHMENT A**

Area Map

## **ATTACHMENT B**

Plot Plan

## **ATTACHMENT C**

40 CFR Part 60, Subpart Kb