

ADEQ MINOR SOURCE AIR PERMIT

Permit #: 821-AR-7

IS ISSUED TO:

Ashland Specialty Chemical Company
1901 North Redmond Road
Jacksonville, AR 72076
Pulaski County
AFIN: 60-00416

THIS PERMIT IS Ashland Specialty Chemical Company's 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 THE 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

Table of Contents

Section I: FACILITY INFORMATION..... 3

Section II: INTRODUCTION 4

Summary..... 4

Process Description 4

Regulations..... 6

Section III: PERMIT HISTORY..... 8

Section IV: EMISSION UNIT INFORMATION 10

Specific Conditions..... 10

SN-01/02 Conditions 15

SN-01/02, SN-04, and SN-05 Conditions 16

SN-06, SN-07, and SN-08 Conditions 16

SN-09, SN-10, and SN-22 Conditions 16

SN-22 Conditions 17

Section V: INSIGNIFICANT ACTIVITIES 18

Section VI: GENERAL CONDITIONS 19

Ashland Specialty Chemical Company
Permit #: 821-AR-7
AFIN: 60-00416

Section I: FACILITY INFORMATION

PERMITTEE: Ashland Specialty Chemical Company

AFIN: 60-00416

PERMIT NUMBER: 821-AR-7

FACILITY ADDRESS: 1901 North Redmond Road
Jacksonville, AR 72076

COUNTY: Pulaski

CONTACT POSITION: John Ferrell, Plant Manager

TELEPHONE NUMBER: (501) 533-6129

REVIEWING
ENGINEER: Karen Cerney

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

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



Section II: INTRODUCTION

Summary

Ashland Specialty Chemical Company owns and operates a polyester and thermoplastic resin manufacturing facility located at 1901 North Redmond Road in Jacksonville, Pulaski County, Arkansas. This permitting action allows the facility to lower the thermal oxidizer's minimum combustion temperature, to change emission rates for the thermal oxidizer and boiler to allow for the facility to switch between natural gas and fuel oil to fire these pieces of equipment, to increase the production limit of finished resin to 140,000,000 lbs, and to add emissions for new products. This permitting action allows an increase in CO emissions by 1.6 tons per year (tpy), PM/PM₁₀ emissions by 1.2 tpy, SO₂ emissions by 78.7 tpy, NO_x emissions by 3.3 tpy, and HAP emissions by 0.1 tpy 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, propylene glycol, ethylene glycol, dipropylene glycol, neopentyl glycol, butylene glycol, and/or diethylene 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 or cross-linking agent which is typically styrene. The dibasic acids used in the process are maleic anhydride (MA), phthalic anhydride (PA), and isophthalic acid. Other acids used include fumaric, oxalic, adipic, benzoic, and terephthalic. The glycols used are ethylene glycol, propylene glycol, dipropylene glycol, neopentyl glycol, diethylene 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 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 process temperature of approximately 400EF. At approximately 200EF, the burners automatically shut off based on rate of rise while the reaction exotherms. Once the exotherm is finished, the burners automatically re-start to heat the batch to the programmed setpoint.

Vapors which are generated from the reaction contain water, glycol, and maleic anhydride. These vapors pass through a packed column followed by a partial condenser, a total condenser, and a distillate receiver; 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 vapor outlet of the distillate receiver is also tied into the thermal oxidizer (T.O.).

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

Glycols separated from the water vapor are returned to the reactor.

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 minimize the vapor from the reactors going to the carbon beds. The valves from the reactors to the packed columns are closed and the reactor is placed under a 5 scfm nitrogen blanket. 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 process is complete, the material is pumped to the blend tanks, storage tanks, tank wagons, or is loaded into drums or totes (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 1500EF. 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 provide 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, flammable raw material 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 vaporized and oxidized in the T.O. are stormwater which collects in the distillate impoundment, 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-17, SN-18, SN-25, and SN-26.

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

Other emission points include vents from the two boilers (SN-04 and SN-05), 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 approximately 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/PM₁₀) primarily as a byproduct of combustion; sulfur dioxide (SO₂) 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_x) 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 80 tons per year of any criteria pollutant; therefore it is below the level which would make it a major stationary source.

SN-23 and SN-24 each have a working capacity of 38,000 gallons (98% of total capacity). SN-28 has a total capacity of 20,300 gallons. 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. The styrene stored in Tank #22 (SN-28) has a vapor pressure of less than 7 mm Hg (0.93 kPa) at 79°F.

The emissions from Tank #1 and Tank #3 (SN-23 & SN-24) are controlled by a glycol scrubber. The emissions from Tank #22 (SN-28) are routed to the Thermal oxidizer (SN-01/02).

This facility is subject to regulation under the Arkansas Air Pollution Control Code (Regulation 18) and the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19).

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

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

Table 1 - Total Allowable Emissions

| Total Allowable Emissions | | |
|---|------------------------|------------|
| Pollutant | Emissions Rates | |
| | lb/hr | tpy |
| PM | 1.1 | 4.4 |
| PM ₁₀ | 1.1 | 4.4 |
| SO ₂ | 18.3 | 79.3 |
| VOC | 25.3 | 25.8 |
| CO | 14.1 | 60.4 |
| NO _x | 6.3 | 27.1 |
| Total HAP | 16.00 | 14.20 |
| Styrene | 7.50 | 8.30 |
| PA ¹ , MA ² , GC ³ , and Methanol | 8.50 | 5.90 |

1 - Phthalic Anhydride

2 - Maleic Anhydride

3 - Glycols

Ashland Specialty Chemical Company
Permit #: 821-AR-7
AFIN: 60-00416

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:

- Increased the throughput limits for six raw materials.
- Permitted certain tanks to store "glycol" rather than specific glycol products to allow flexibility.
- Modified carbon bed testing requirements.
- Included emission sources inadvertently missed in prior permits.
- Permitted all natural gas fueled equipment at their potential to emit (pte) and removed the limits on natural gas usage.
- Replaced the phthalic anhydride storage tank (Tank 3) (SN-24).
- Installed a glycol scrubber to control emissions from tank #1 (SN-23) and tank #3 (SN-

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

24).

Permit #821-AR-4 was issued June 5, 2001 to incorporate the facility's tie-in of the outlet of their existing scrubber to their thermal oxidizer.

Permit #821-AR-5 was issued November 20, 2002 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 were routed to the same carbon bed which was previously used to control emissions from the PCO.

Permit #821-AR-6 was issued May 12, 2003 to allow for the correction of maximum flow rates from the thermal oxidizer (SN-01/02) (the facility has been operating at a reduced flow rate and at an elevated temperature to comply with the existing CO limit), to change the operating temperature of the thermal oxidizer, to add a packaged solids dust collector (SN-27), to increase the throughput of ethylene glycol, maleic anhydride, and phthalic anhydride, to correct the VOC emission rates on the Total Allowable Emissions Table in Section II, to correct the process description and to add a 20,300 gallon styrene storage tank (SN-28). The styrene tanks emissions were routed to SN-01/02. There was an increase in CO emissions by 33.2 tons per year due to increased flow (based upon stack test data) and in PM/PM₁₀ emissions by 1.2 tons per year with this modification and the corrected VOC emissions rates increased VOC emissions by 0.4 lb/hr and by 0.1 tons per year.

Section IV: EMISSION UNIT INFORMATION

Specific Conditions

1. The permittee will not exceed the emission rates set forth in the following table. [§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]

Table 2 - Criteria Pollutants

| SN | Description | Pollutant | lb/hr | tpy |
|-----------------|---|------------------|-------|------|
| SN-01 and SN-02 | Thermal Oxidizer/Waste Heat Boiler (10 MM BTU/hr) SN-01, Waste Heat Boiler SN-02. Controlling: reactor overhead vent, cooling tanks (2), thin tanks overhead vents (6), liquid distillate receivers, blend tanks (BT 1-8), Storage tanks 2, 6, 7, 9, 12, 14, 15, 17, 18, 19, 20, 21, and 22. | PM ₁₀ | 0.3 | 1.4 |
| | | SO ₂ | 11.2 | 49.2 |
| | | VOC | 3.3 | 14.2 |
| | | CO | 13.1 | 56.6 |
| | | NO _x | 3.8 | 16.3 |
| SN-03 | Tanks 4 and 16 are redesignated SN-25 and SN-26. | | | |
| SN-04 | Boiler #1 (3.35 MM BTU/hr) (Installed 1972) | PM ₁₀ | 0.1 | 0.4 |
| | | SO ₂ | 3.4 | 14.9 |
| | | VOC | 0.1 | 0.2 |
| | | CO | 0.3 | 1.2 |
| | | NO _x | 0.5 | 2.1 |
| SN-05 | Boiler #2 (3.35 MM BTU/hr) (Installed 1972) | PM ₁₀ | 0.1 | 0.4 |
| | | SO ₂ | 3.4 | 14.9 |
| | | VOC | 0.1 | 0.2 |
| | | CO | 0.3 | 1.2 |
| | | NO _x | 0.5 | 2.1 |
| SN-06 | Reactor #1 Burner (6.7 MM BTU/hr) (Installed 1972) | PM ₁₀ | 0.1 | 0.4 |
| | | SO ₂ | 0.1 | 0.1 |
| | | VOC | 0.1 | 0.3 |
| | | CO | 0.2 | 0.7 |
| | | NO _x | 0.7 | 3.0 |
| SN-07 | Reactor #2 Burner (3.9 MM BTU/hr) (Installed 1972) | PM ₁₀ | 0.1 | 0.3 |
| | | SO ₂ | 0.1 | 0.1 |
| | | VOC | 0.1 | 0.2 |
| | | CO | 0.1 | 0.4 |
| | | NO _x | 0.4 | 1.8 |

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

| SN | Description | Pollutant | lb/hr | tpy |
|-----------|--|--------------------------------|--------------|------------|
| SN-08 | Reactor #3 Burner (3.9 MM BTU/hr) (Installed 1972) | PM ₁₀ | 0.1 | 0.3 |
| | | SO ₂ | 0.1 | 0.1 |
| | | VOC | 0.1 | 0.2 |
| | | CO | 0.1 | 0.4 |
| | | NO _x | 0.4 | 1.8 |
| SN-09 | Reactor Carbon Bed | VOC | 0.1 | 0.2 |
| SN-10 | Tank Carbon Bed | VOC | 0.1 | 0.1 |
| SN-11 | Glycol Weigh Tanks | VOC | 0.7 | 0.4 |
| SN-12 | Container Filling (Drumming) | VOC | 1.7 | 0.6 |
| SN-13 | Evaporator Drum Vent | Removed in 1995 | | |
| SN-14 | Inert Gas Generator | Removed in 1995 | | |
| SN-15 | Bulk Loading | VOC | 3.4 | 2.4 |
| SN-16 | Tank #2 – Diocyclopentadiene | Vent routed to T.O. (SN-01/02) | | |
| SN-17 | Tank #5 - Glycol Storage | VOC | 0.1 | 0.1 |
| SN-18 | Tank #8 - Glycol Storage | VOC | 0.1 | 0.1 |
| SN-19 | Tank #9 - Resin Storage | Vent routed to T.O. (SN-01/02) | | |
| SN-20 | Tank #13 - Mixed Glycols | VOC | 8.9 | 1.2 |
| SN-21 | Fugitives VOC Emissions pumps, valves, etc. | VOC | 1.1 | 4.7 |
| SN-22 | POLYM Process | VOC | 0.1 | 0.1 |
| SN-23 | Tank #1 - Maleic Anhydride (Installed 1995) (38,000 gal) Vent Routed to Glycol Scrubber | VOC | 0.1 | 0.1 |
| SN-24 | Tank #3 - Phthalic Anhydride (Installed 1998) (38,000 gal) Vent Routed to Glycol Scrubber | VOC | 0.3 | 0.1 |
| SN-25 | Tank #4 - Neopentyl Glycol | VOC | 4.7 | 0.3 |
| SN-26 | Tank #16 - Glycol Storage | VOC | 0.1 | 0.1 |
| SN-27 | Packaged Solids Dust Collector | PM ₁₀ | 0.3 | 1.2 |
| SN-28 | Tank #22 – Styrene | Vent routed to T.O.(SN-01/02) | | |

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

2. The permittee will not exceed the emission rates set forth in the following table. [§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]

Table 3 - Non-Criteria Pollutants

| SN | Description | Pollutant | lb/hr | tpy |
|-----------------|---|--|-------|-----|
| SN-01 and SN-02 | Thermal Oxidizer/Waste Heat Boiler (10 MM BTU/hr) SN-01, Waste Heat Boiler SN-02. Controlling: reactor overhead vent, cooling tanks (2), thin tanks overhead vents (6), liquid distillate receivers, blend tanks (BT 1-8), Storage tanks 2, 6, 7, 9, 12, 14, 15, 17, 18, 19, 20, 21, and 22. | PM | 0.3 | 1.4 |
| | | Styrene | 1.5 | 2.9 |
| | | PA ¹ , MA ² , GC ³ , Methanol | 1.6 | 2.0 |
| SN-03 | Tanks 4 and 16 are redesignated SN-25 and SN-26. | | | |
| SN-04 | Boiler #1 (3.35 MM BTU/hr) (Installed 1972) | PM | 0.1 | 0.4 |
| SN-05 | Boiler #2 (3.35 MM BTU/hr) (Installed 1972) | PM | 0.1 | 0.4 |
| SN-06 | Reactor #1 Burner (6.7 MM BTU/hr) (Installed 1972) | PM | 0.1 | 0.4 |
| SN-07 | Reactor #2 Burner (3.9 MM BTU/hr) (Installed 1972) | PM | 0.1 | 0.3 |
| SN-08 | Reactor #3 Burner (3.9 MM BTU/hr) (Installed 1972) | PM | 0.1 | 0.3 |
| SN-10 | Tank Carbon Bed | Styrene | 0.1 | 0.1 |
| SN-11 | Glycol Weigh Tanks | PA ¹ , MA ² , GC ³ , Methanol | 0.7 | 0.4 |
| SN-12 | Container Filling (Drumming) | Styrene | 1.3 | 0.6 |
| SN-13 | Evaporator Drum Vent | Removed in 1995 | | |
| SN-14 | Inert Gas Generator | Removed in 1995 | | |
| SN-15 | Bulk Loading | Styrene | 3.4 | 2.4 |
| SN-16 | Tank #2 – Diocyclopentadiene | Vent routed to T.O.(SN-01/02) | | |

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

| SN | Description | Pollutant | lb/hr | tpy |
|-------|--|---|-------|-----|
| SN-17 | Tank #5 - Glycol Storage | PA ¹ , MA ² , GC ³ , Methanol | 0.1 | 0.1 |
| SN-18 | Tank #8 - Glycol Storage | PA ¹ , MA ² , GC ³ , Methanol | 0.1 | 0.1 |
| SN-19 | Tank #9 - Resin Storage | Vent routed to T.O.(SN-01/02) | | |
| SN-20 | Tank #13 - Mixed Glycols | PA ¹ , MA ² , GC ³ , Methanol | 0.2 | 0.2 |
| SN-21 | Fugitives VOC Emissions pumps, valves, etc. | Styrene | 1.1 | 2.2 |
| | | PA ¹ , MA ² , GC ³ , Methanol | 0.6 | 2.5 |
| SN-22 | POLYM Process | Styrene | 0.1 | 0.1 |
| SN-23 | Tank #1 - Maleic Anhydride (Installed 1995) (38,000 gal) Vent Routed to Glycol Scrubber | PA ¹ , MA ² , GC ³ , Methanol | 0.1 | 0.1 |
| SN-24 | Tank #3 - Phthalic Anhydride (Installed 1998) (38,000 gal) Vent Routed to Glycol Scrubber | PA ¹ , MA ² , GC ³ , Methanol | 0.3 | 0.1 |
| SN-25 | Tank #4 - Neopentyl Glycol | PA ¹ , MA ² , GC ³ , Methanol | 4.7 | 0.3 |
| SN-26 | Tank #16 - Glycol Storage | PA ¹ , MA ² , GC ³ , Methanol | 0.1 | 0.1 |
| SN-27 | Packaged Solids Dust Collector | PM | 0.3 | 1.2 |
| SN-28 | Tank #22 – Styrene | Vent routed to T.O.(SN-01/02) | | |

1 - Phthalic Anhydride

2 - Maleic Anhydride

3 - Glycols

3. Visible emissions will not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Table 4 - Visible Emissions

| SN | Limit | Regulatory Citation |
|---|-------|---------------------|
| SN-01/02, SN-04 through SN-08, and SN-27 | 5% | §18.501 |
| SN-09 through SN-26, and SN-28 | 0% | §18.501 |

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

4. The permittee will 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. [§18.901 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-31]
5. The permittee will not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants to become airborne. [§18.801 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
6. The permittee will not produce more than 140,000,000 pounds of resin at the facility per consecutive 12-month period. [§19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
7. The permittee will maintain monthly records which demonstrate compliance with Specific Condition #6. The permittee will update the records by the fifteenth day of the month following the month to which the records pertain. The permittee will keep the records onsite and make the records available to Department personnel upon request. [§19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
8. The permittee will not exceed the following throughput limits during any consecutive twelve month period. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| Raw Material or Product | 12-Consecutive Month Throughput |
|-------------------------|---------------------------------|
| Maleic Anhydride | 26,940,000 lbs. |
| Phthalic Anhydride | 22,400,000 lbs. |
| Styrene | 54,000,000 lbs. |
| Dicyclopentadiene | 17,580,000 lbs. |
| Neopentyl Glycol | 8,760,000 lbs. |
| Ethylene Glycol | 4,300,000 lbs. |
| Methanol | 2,000,000 lbs. |

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

9. The permittee will maintain monthly records which demonstrate compliance with Specific Condition 8. Records will be updated by the fifteenth day of the month following the month to which the records pertain. These records will be kept on site and will be made available to Department personnel upon request. A twelve month rolling average and each individual month's data will be kept on site and made available to Department personnel upon request. [§18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

10. 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 will apply when the tanks are vented directly to the atmosphere: [§19.705 of Regulation 19, §18.1004 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
 - a. The reactor will be shut-down and at ambient temperature.
 - b. The product's temperature will not exceed 120EF during the process.
 - c. Ashland will not blend more than 2,000,000 pounds of product while venting to the atmosphere.
 - d. Ashland will maintain records of all blending and thinning operations during the scheduled maintenance shut-down period. The records will be kept on site, maintained for a period of two years, and will be provided to Department personnel upon request. These records will 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.

11. The facility will be limited to venting to the atmosphere for 14 days of scheduled maintenance shut-down periods in any calendar year. [§19.705 of Regulation 19, §18.1004 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-01/02 Conditions

12. The permittee will continuously operate the thermal oxidizer and monitor the T.O. to maintain a minimum temperature of 1500EF. [§19.303 of Regulation 19, §18.1104 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

13. The permittee will maintain continuous records demonstrating compliance with Specific Condition #12. Ashland will record and maintain such data (time, date, cause, circumstances involved, total time of diversion per event, corrective actions taken) for any diversion. These records will be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19, §18.1004 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
14. The permittee will assure that when the T.O. is down that emissions are routed to the carbon beds. [§19.705 of Regulation 19, §18.1104 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
15. The permittee will maintain records of periods when the T.O. is down and emissions are vented to the carbon beds. [§19.705 of Regulation 19, §18.1004 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-01/02, SN-04, and SN-05 Conditions

16. The permittee will use only pipeline quality natural gas or fuel oil to fuel the thermal oxidizer/waste heat boiler (SN-01/02) and the #1 and #2 boilers (SN-04 and SN-05) at this facility. The thermal oxidizer and boilers are permitted for their theoretical maximum using the higher emission value from either burning natural gas or fuel oil. Therefore, no recordkeeping of natural gas or fuel oil is required. [§19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-06, SN-07, and SN-08 Conditions

17. The permittee will use only pipeline quality natural gas to fuel the reactors (SN-06, SN-07, and SN-08) at this facility. The reactors are permitted for their theoretical maximum. Therefore, no recordkeeping of natural gas is required. [§19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

SN-09, SN-10, and SN-22 Conditions

18. The permittee will assure the proper operation of the three carbon bed filters used at the facility. The carbon beds will be changed when the removal efficiency falls below 95%. The following sampling / replacement periods will be observed during operation of the carbon bed filters: [§19.303 of Regulation 19, §18.1104 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
 - 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 will be counted.

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

- c. POLYM Process Carbon Bed (SN-22): the carbon bed will be replaced after every thirty-second 55 gallon drum produced by the POLM process.

SN-22 Conditions

- 19. The permittee will maintain monthly records of the number of drums solidified by the POLYM process together with the dates of the bed exchanges which will demonstrate compliance with Specific Condition 15c. Records will be updated by the fifteenth day of the month following the month to which the records pertain. These records will be kept on site, and will be made available to Department personnel upon request. A twelve month rolling average and each individual month's data will be kept on site and made available to Department personnel upon request. [§19.705 of Regulation 19, §18.1004 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Section V: INSIGNIFICANT ACTIVITIES

The Department deems the following types of activities or emissions as 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 **November 19, 2002**, and letters dated **November 26, 2002, December 31, 2002, and January 27, 2003**.



Table 5 - Insignificant Activities

| Description | Category |
|--|----------|
| Tank Transfers | A-3 |
| Tank Cleanings | A-13 |
| Application Laboratory Fugitives | A-13 |
| Component Fugitive Emissions | A-13 |
| Storage Tanks < 250 Gallons | A-2 |
| Containers less than 5 gallons which do not emit any detectable VOC or HAP when closed | A-8 |
| Laboratory equipment used exclusively for routine chemical and physical analysis | A-5 |
| Welding equipment | A-7 |
| Emergency Generator | A-12 |

Section VI: GENERAL CONDITIONS

1. Any terms or conditions included in this permit that 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 that 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. This permit does 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 under the Act. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
3. The permittee will notify the Department in writing within thirty (30) days after commencement of construction, completion of construction, first operation of equipment and/or facility, and first attainment of the equipment and/or facility target production rate. [§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]
4. Construction or modification must commence within eighteen (18) months from the date of permit issuance. [§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]
5. The permittee must keep records for five years to 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 Department may use the records, at the discretion of the Department, to determine compliance with the conditions of the permit. [§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]
6. A responsible official must certify any reports required by any condition contained in this permit and submit any reports to the Department at the address below. [§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]

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

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

7. The permittee will test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) newly constructed or modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start-up of the permitted source or (2) existing equipment already operating according to the time frames set forth by the Department. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee must submit compliance test results to the Department within thirty (30) days after the completion of testing. [§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]
8. The permittee will provide: [§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]
 - a. Sampling ports adequate for applicable test methods;
 - b. Safe sampling platforms;
 - c. Safe access to sampling platforms; and
 - d. Utilities for sampling and testing equipment.
9. The permittee will operate equipment, control apparatus and emission monitoring equipment within their design limitations. The permittee will maintain in good condition at all times equipment, control apparatus and emission monitoring equipment. [§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]
10. If the permittee exceeds an emission limit established by this permit, the permittee will be deemed in violation of said permit and will 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: [§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]
 - 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 the permittee took all reasonable measures to immediately minimize or eliminate the excess emissions.

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

- 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 must 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, the information need not be submitted again.
11. The permittee shall allow representatives of the Department upon the presentation of credentials: [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
- 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; and
 - e. To perform an operation and maintenance inspection of the permitted source.
12. The Department issued this permit 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. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
13. The Department may revoke or modify this permit when, in the judgment of the Department, such revocation or modification is necessary to comply with the applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated the Arkansas Water and Air Pollution Control Act. [§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]
14. This permit may be transferred. An applicant for a transfer must 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. The Department may deny a transfer on the basis of

Ashland Specialty Chemical Company

Permit #: 821-AR-7

AFIN: 60-00416

the information revealed in the disclosure statement or other investigation or, deliberate falsification or omission of relevant information. [§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]

15. This permit shall be available for inspection on the premises where the control apparatus is located. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
16. This permit authorizes only those pollutant emitting activities addressed herein. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
17. This permit supersedes and voids all previously issued air permits for this facility. [Regulation 18 and 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]
18. The permittee must pay all permit fees in accordance with the procedures established in Regulation No. 9. [A.C.A §8-1-105(c)]

| Request for PDS Invoice | | | | |
|--|------------------------------------|---------|-------------------|--|
| Invoice Number <i>(assigned when invoice printed)</i> | PDS- | | | |
| AFIN r | 60-00416 | | | |
| Name <i>(for confirmation only)</i> | Ashland Specialty Chemical Company | | | |
| Invoice Type (pick one) r | Initial | Mod X | Variance | |
| | Annual | Renewal | Interim Authority | |
| Permit Number r | 821-AR-7 | | | |
| Media Code r | A | | | |
| Fee Code or Pmt Typer | MS | | | |
| Fee Description <i>(for confirmation only)</i> | Minor Source | | | |
| Amount Due r <i>(whole dollar amount only)</i> | \$1602 | | | |
| Printed Comment <i>(600 characters maximum)</i> | | | | |
| <i>Note: The information below is for use by the requesting division if desired; it will not print on the invoice.</i> | | | | |
| Engineer | Karen Cerney | | | |
| Paid? (yes/no) | | | | |
| Check number | | | | |
| Comments | \$20.35 * 78.7 = \$1601.55 | | | |
| r Required data (See "g:\Misc\PDS_FeeCodes.wpd" for descriptions and discussions of fee codes) | | | | |
| Request submitted by: | | Date: | | |

Public Notice

Pursuant to A.C.A. §8-4-203, and the regulations promulgated thereunder, the Air Division of the Arkansas Department of Environmental Quality gives the following notice:

Ashland Specialty Chemical Company owns and operates a polyester and thermoplastic resin manufacturing facility located at 1901 North Redmond Road in Jacksonville, Arkansas. This permitting action allows the facility to lower the thermal oxidizer's minimum combustion temperature, to change emission rates for the thermal oxidizer and boiler to allow for the facility to switch between natural gas and fuel oil to fire these pieces of equipment, to increase the production limit of finished resin, and to add emissions for new products. This permitting action allows an increase in CO emissions by 1.6 tons per year (tpy), PM/PM₁₀ emissions by 1.2 tpy, SO₂ emissions by 78.7 tpy, NO_x emissions by 3.3 tpy, and HAP emissions by 0.1 tpy.

The application has been reviewed by the staff of the Department and has received the Department's tentative approval subject to the terms of this notice.

Citizens wishing to examine the permit application and staff findings and recommendations may do so by contacting Doug Szenher, Public Affairs Supervisor. Citizens desiring technical information concerning the application or permit should contact Karen Cerney, Engineer. Both Doug Szenher and Karen Cerney can be reached at the Department's central office, 8001 National Drive, Little Rock, Arkansas 72209, telephone: (501) 682-0744.

The draft permit and permit application are available for copying at the above address. A copy of the draft permit has also been placed at the Little Rock Public Library, 100 S. Rock, Little Rock, Arkansas, 72201. This information may be reviewed during normal business hours.

Interested or affected persons may also submit written comments or request a hearing on the proposal, or the proposed modification, to the Department at the above address - Attention: Doug Szenher. In order to be considered, the comments must be submitted within thirty (30) days of publication of this notice. Although the Department is not proposing to conduct a public hearing, one will be scheduled if significant comments on the permit provisions are received. If a hearing is scheduled, adequate public notice will be given in the newspaper of largest circulation in the county in which the facility in question is, or will be, located.

The Director shall make a final decision to issue or deny this application or to impose special conditions in accordance with Section 2.1 of the Arkansas Pollution Control and Ecology Commission's Administrative Procedures (Regulation #8).

Dated this

Marcus C. Devine