

STATEMENT OF BASIS

for the issuance of Draft Air Permit # 0378-AR-R12:

1. **PERMITTING AUTHORITY:**

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118

2. **APPLICANT:**

Gates Corporation
1801 North Lincoln
Siloam Springs, AR 72761

3. **PERMIT WRITER: Melisha Griffin**

4. **PROCESS DESCRIPTION AND NAICS CODE:**

NAICS Description: Rubber Product Manufacturing for Mechanical Use
NAICS Code: 326291

5. **SUBMITTALS: 10/17/2006**

6. **REVIEWER'S NOTES:**

Gates Corporation of 1801 North Lincoln Street, Siloam Springs, Benton County, Arkansas owns and operates a rubber belt manufacturing facility.

In this modification, the facility is increasing the production limit of the Rubber Step Cure Process (SN-10) from 6,000,000 pounds of rubber per consecutive 12 month period to 10,000,000 pounds of rubber. This change will result in a slight increase in non-criteria pollutants.

A typographical error is also being corrected in this modification. Tables 2 and 3 of the current permit reflect emissions bubbles for SN-01 and SN-02 and for SN-11, SN-12 and SN-13, but the Total Allowable Emissions table (Table 1) does not. Therefore, Table 1 is being corrected to reflect the bubbled emissions which will result in lower permitted total emissions for PM, PM₁₀, SO₂, VOC and NO_x.

7. **COMPLIANCE STATUS:**

There are no current enforcement action against the facility.

8. **APPLICABLE REGULATIONS:**

PSD Applicability

Did the facility undergo PSD review in this permit (i.e., BACT, Y/N N
Modeling, et cetera?)

Has this facility undergone PSD review in the past? Y/N Permit# N

Is this facility categorized as a major source for PSD? Y/N N

≥ 100 tpy and on the list of 28 (100 tpy)? Y/N N

≥ 250 tpy all other Y/N N

PSD Netting

Was netting performed to avoid PSD review in this permit? Y/N N

If so, indicate increases and decreases used in netting for PSD purposes only.

NETTING TABLE							
Emission Source	Pollutant Emission Rate (TPY)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	Pb
N/A							
Totals							
Significant Emission Rate	25	15	40	40	100	40	0.6
Subject to PSD?							

Source and Pollutant Specific Regulatory Applicability

Source	Pollutant	Regulation [NSPS, NESHAP (Part 61 & Part 63), or PSD only]
N/A		

9. EMISSION CHANGES:

The following table summarizes plant wide emission changes associated with this permitting action.

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit [Previous Permit #378-AR-R11]	Air Permit [Permit #378-AR-12]	Change
PM	13.3	5.8	-7.5
PM ₁₀	13.3	5.8	-7.5
SO ₂	62.4	31.2	-31.2
VOC	46.6	38.4	-8.2
CO	63.2	31.6	-31.6
NO _x	87.4	43.7	-43.7
Total HAP	9.234	12.686	3.452
1,3-Butadiene	0.042	0.042	0
Acetophenone	0.099	0.128	0.029
Aniline	0.022	0.023	0.001
Benzene*	0.066	0.074	0.008
Carbon Disulfide	5.114	8.174	3.06
DEHP	0.3936	0.3956	0.002
Hexane *	0.093	0.106	0.013
Methyl isobutyl ketone	0.063	0.063	0
Methylene Chloride	0.151	0.154	0.003
Toluene*	2.321	2.331	0.01

Plant Wide Permitted Emissions (ton/yr)			
Pollutant	Air Permit [Previous Permit #378-AR-R11]	Air Permit [Permit #378-AR-12]	Change
Styrene *	0.005	0.006	0.001
Xylene*	0.127	0.178	0.051
Acrolein	0.039	0.058	0.019
Phenol	0.021	0.026	0.005
Quinoline	0.37	0.62	0.25
Cadmium	0.0002	0.0002	0
Lead	0.003	0.003	0
Nickel	0.016	0.016	0
Propylene oxide	0.052	0.052	0
Tetrachloroethylene	0.236	0.236	0

10. MODELING:

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Other Modeling – N/A

Odor -- N/A

Odor modeling for sources emitting styrene.

Pollutant	Threshold value 1-hour average	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass ?
Styrene	1361 $\mu\text{g}/\text{m}^3$	Less than 1 $\mu\text{g}/\text{m}^3$	Y

H₂S Modeling – N/A

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific standards.

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass ?
H ₂ S	20 parts per million (5-minute average)		
	80 parts per billion (8-hour average) residential area		
	100 parts per billion (8-hour average) nonresidential area		

11. Non-Criteria Pollutants

This permit contains a TLV table for non-criteria pollutants. Modeling was used to determine the permitted emission rates for ranges of non-criteria pollutants (grouped by TLVs) that pass the *PAER* or *PAIL*. Therefore, modeling of specific non-criteria pollutants was not performed.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department deemed PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Acetophenone	49.14	5.406	0.349	Pass
Acrolein	0.23	0.025	0.098	Fail
Aniline	7.62	0.838	0.1168	Pass
Benzene	1.60	0.176	0.332	Fail
1,3-Butadiene	4.42	0.487	0.183	Pass
Cadmium	0.002	0.00022	0.00102	Fail
Carbon Disulfide	3.11	0.34255	10.5	Fail
DEHP	5.00	0.55000	0.3994	Pass

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Lead	0.05	0.006	0.0117	Fail
Methylene Chloride	173.68	19.105	0.733	Pass
Methyl Isobutyl Ketone	204.83	22.531	0.363	Pass
Nickel	1.50	0.165	0.066	Pass
n-Hexane	176.24	19.386	0.315	Pass
Phenol	19.25	2.117	0.078	Pass
Propylene oxide	1.42	0.156	0.225	Fail
Styrene	85.20	9.372	0.0614	Pass
Tetrachloroethylene	169.53	18.648	1.02	Pass
Toluene	188.40	20.725	9.967	Pass
Xylene	434.19	47.761	0.396	Pass

2nd Tier Screening (PAIL)

SCREEN3 air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Acrolein	2.292843	1.38	Yes
Benzene	15.97342	6.14	Yes
Cadmium	0.02	0.011	Yes

Pollutant	(PAIL, $\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Carbon Disulfide*	175	29.13	Yes
Lead	0.5	0.122	Yes
Propylene oxide	14.2	2.347	Yes

*The PAIL for Carbon Disulfide is based on an $\frac{1}{4}$ th of the RFC Value (which is $700 \mu\text{g}/\text{m}^3$). $\frac{1}{4}$ th of the RFC = $175 \mu\text{g}/\text{m}^3$. The Pail (in this instance is compared to the annual concentration – which is equal to $29.13 \mu\text{g}/\text{m}^3$).

ISCST3 air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, $\mu\text{g}/\text{m}^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
N/A			

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01 02	AP-42	NOx – 100 CO – 84 PM10 – 7.6 SO2 – 0.6 VOC – 5.5	None	NA	Natural gas fuel – units are lbs/MMscf
01 02	AP-42	NOx – 20 CO – 5 PM10 – 3.3 SO2 – 71 VOC – 0.252	None	NA	#2 Fuel Oil – units are lbs/Mgal

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
08	Material balance	-	-	-	-
09	AP-42 Table 4.12-9	VOC – 8.68E-05 HAPS – see application	None	NA	Units are lbs/lb rubber processed
10	AP-42 Table 4.12-10	VOC – 2.94E-03 HAPS – see application	None	NA	Units are lbs/lb rubber processed
11 12 13	AP-42 Table 4.12-12	VOC – 1.78E-03 PM10 – 1 HAPS – see application	Cyclones + ESP	99%	Units are lbs/lb rubber processed

13. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
N/A				

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and the need for records included in any annual, semiannual or other reports.

SN	Parameter or Pollutant to be Monitored	Method of Monitoring (CEM, Pressure Gauge, etc)	Frequency*	Report (Y/N)**
N/A				

* Indicate frequency of recording required for the parameter (Continuously, hourly, daily, etc.)

** Indicates whether the parameter needs to be included in reports.

15. RECORD KEEPING REQUIREMENTS

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01, 02	Fuel Oil Usage	869,760 gallons per 12 months	Monthly	N
01, 02	Fuel Oil sulfur content	0.5 % sulfur	Each Shipment	N
08	VOC Usage	25.3 tons per 12 months	Monthly	N
08	HAPS usage	Toluene – 14.33 tons per 12 months Hexane – 14.33 tons per 12 months	Monthly	N
Facility	Rubber Throughput	37,300,000 tons per 12 months	Monthly	N

* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

** Indicates whether the item needs to be included in reports

16. OPACITY

SN	Opacity	Justification for limit	Compliance Mechanism
01, 02 (natural gas)	5%	Department Standard	Fuel used
01, 02 (fuel oil)	20%	Department Standard	Observation
11, 12, 13	10%	Department Standard	Observation

17. **DELETED CONDITIONS:**

The previous permit contained the following deleted Specific Conditions.

Former SC	Justification for removal
Several	Several Conditions removed due to the change from minor source to Title V

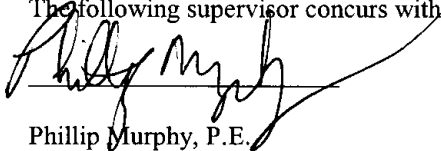
18. **VOIDED, SUPERSEDED OR SUBSUMED PERMITS**

List all active permits voided/superseded/subsumed by issuance of this permit for this facility.

Permit #
378-AR-11

19. **CONCURRENCE BY:**

The following supervisor concurs with the permitting decision:


Phillip Murphy, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

