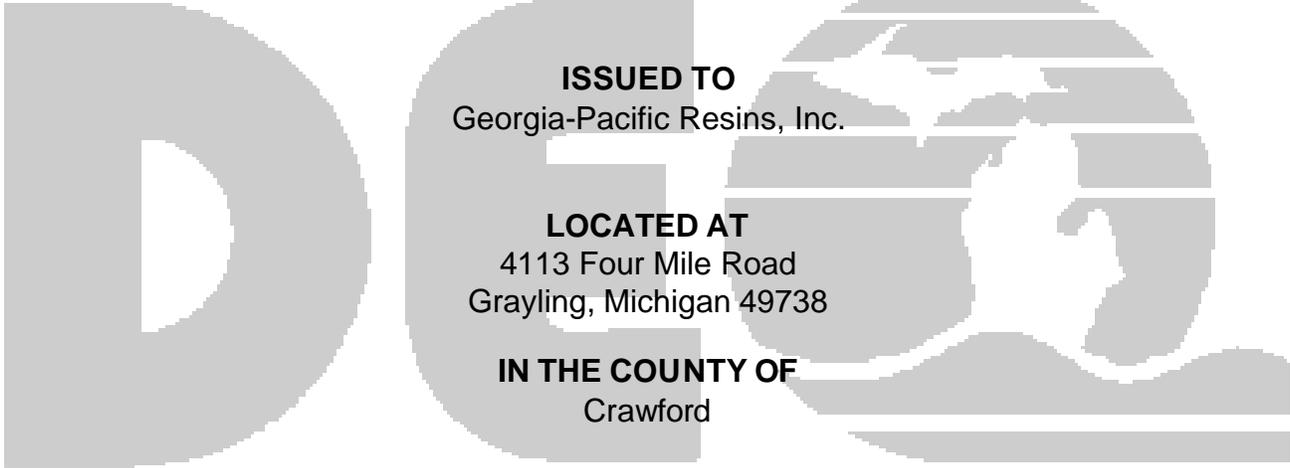


**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

August 18, 2003

**NEW SOURCE REVIEW PERMIT TO INSTALL  
No. 363-89C**



**ISSUED TO**  
Georgia-Pacific Resins, Inc.

**LOCATED AT**  
4113 Four Mile Road  
Grayling, Michigan 49738

**IN THE COUNTY OF**  
Crawford

**STATE REGISTRATION NUMBER**  
N1237

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Part 5505(1) of Article II, Chapter I, Part 55 (Air Pollution Control) of P.A. 451 of 1994. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>7/9/2003</b>	
DATE PERMIT TO INSTALL APPROVED: <b>8/18/2003</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**NEW SOURCE REVIEW PERMIT TO INSTALL**

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**Alphabetical Listing of Common Abbreviations/Acronyms used in this Permit to Install.**

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	BTU	British Thermal Unit
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
EPA	Environmental Protection Agency	gr	Grains
EU	Emission Unit	Hg	Mercury
GACS	Gallon of Applied Coating Solids	hr	Hour
GC	General Condition	H <sub>2</sub> S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant	HP	Horsepower
HVLP	High Volume Low Pressure *	Lb	Pound
ID	Identification	M	Meter
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NO <sub>x</sub>	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM10	Particulate Matter less than 10 microns diameter
NSPS	New Source Performance Standards	pph	Pound per hour
NSR	New Source Review	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO <sub>2</sub>	Sulfur Dioxide
SRN	State Registration Number	THC	Total Hydrocarbons
TAC	Toxic Air Contaminant	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
PF	Phenol Formaldehyde	VOC	Volatile Organic Compounds
UF	Urea Formaldehyde	yr	Year

\* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

### GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **[R336.1201(1)]**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **[R336.1201(4)]**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **[R336.1201(6)(b)]**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **[R336.1201(8), Section 5510 of Act 451, PA 1994]**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R336.1219. The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **[R336.1219]**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **[R336.1901]**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **[R336.1912]**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.
11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R336.1303. **[R336.1301]**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this permit to install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R336.1370(2). **[R336.1370]**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **[R336.2001]**

**SPECIAL CONDITIONS**

**Emission Unit Identification**

<b>Emission Unit ID</b>	<b>Emission Unit Description</b>	<b>Stack Identification</b>
EUMETHSTORAGE	Methanol Storage tank controlled by a vapor balance system and chilled water condenser.	SVMETHVENT
EUFORMALDEHYDEPLANT	Formaldehyde plant - this includes all process equipment and storage tanks used to generate formaldehyde and urea formaldehyde.	SVCATINC
EUUREAFORMALDEHYDE	All process equipment used to manufacture "UF" resins. These resins are mixed in batch kettle K-1.	SVCATINC
EUPHENOLFORMALDEHYDE	All process equipment used to manufacture "PF" resins. These resins are mixed in batch kettle K-2.	SVCATINC
Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 to R336.1290.		

**Flexible Group Identification**

<b>Flexible Group ID</b>	<b>Emission Units Included in Flexible Group</b>	<b>Stack Identification</b>
FGFORMALDEHYDE	EUFORMALDEHYDEPLANT, EUMETHSTORAGE	See above table
FGRESIN	EUUREAFORMALDEHYDE, EUPHENOLFORMALDEHYDE	See above table
FGFACILITY	All equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment.	Any vents and stacks associated with the processes

**The following conditions apply to: FGFORMALDEHYDE and FGRESIN**

**Emission Limits**

	<b>Pollutant</b>	<b>Equipment</b>	<b>Limit</b>	<b>Time Period</b>	<b>Compliance Method</b>	<b>Applicable Requirement</b>
1.1a	Formaldehyde	FGFORMALDEHYDE and FGRESIN	0.04 pph	Test Protocol	G.C. 13	R336.1901, 40 CFR Part 60 Subpart III
1.1b	Fugitive Formaldehyde	FGFORMALDEHYDE and FGRESIN	0.006 pph	Test Protocol	G.C. 13	R336.1901, 40 CFR Part 60 Subpart III
1.1c	VOC	FGFORMALDEHYDE and FGRESIN	1.8 pph	Test Protocol	G.C. 13	R336.1702(a), R336.1901, 40 CFR Part 60 Subpart III
1.1d	VOC	EUMETHSTORE	0.039 pph	Test Protocol	G.C. 13	R336.1702(a), R336.1901, 40 CFR Part 60 Subpart III

### **Process/Operational Limits**

- 1.2 The permittee shall accurately calibrate each monitoring and recording device in accordance with the manufacturer's specifications. The permittee shall follow the calibration specifications that were submitted to the District Supervisor, Air Quality Division. **[R336.1901, R336.1910]**
- 1.3 The permittee shall not operate FGFORMALDEHYDE and FGRESIN unless the leak detection, malfunction abatement plan and the preventative maintenance program that has been submitted and approved by the District Supervisor, Air Quality Division is being implemented. **[R336.1901, R336.1910, R336.1911]**
- 1.4 The permittee shall not operate FGRESIN unless the minimum inlet temperature of 550 degrees Fahrenheit is maintained in the catalyst bed of the catalytic oxidizer. **[R336.1901, R336.1910]**
- 1.5 The permittee shall not operate FGFORMALDEHYDE unless the inlet temperature of the catalyst bed of the catalytic oxidizer is maintained at a temperature as required by 40 CFR Part 60.615(c)(2). **[R336.1910, 40 CFR Part 60 Subpart III]**

### **Equipment**

- 1.6 The permittee shall not operate FGFORMALDEHYDE and FGRESIN unless the catalytic oxidizer is installed, maintained, and operated in a satisfactory manner. **[R336.1901, R336.1910, 40 CFR Part 60 Subpart III]**
- 1.7 The permittee shall not transfer any VOC liquid or fill any VOC liquid storage tank unless the vapor balance and collection system is installed, maintained, and operated in a satisfactory manner as described in Appendix A. **[R336.1901, R336.1910]**
- 1.8 The permittee shall not operate the epichlorohydrin tank unless the nitrogen blanketing and collection system and catalytic oxidizer are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the nitrogen blanketing system includes maintaining the pressure in the tank below 7 psia. In the event that the pressure exceeds 7 psia, the vapors shall be vented to the catalytic oxidizer. **[R336.1901, R336.1910]**
- 1.9 The permittee shall not operate the methanol storage tank unless the chilled water condenser for controlling breathing losses is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining the chilled water temperature at 50 degrees Fahrenheit to assure an overall collection efficiency of 95 percent. **[R336.1901, R336.1910]**
- 1.10 The permittee shall not operate the formaldehyde storage tanks unless the vapor collection system and catalytic oxidizer are installed, maintained, and operated in a satisfactory manner. **[R336.1901, R336.1910]**
- 1.11 The permittee shall install, maintain, and operate in a satisfactory manner the catalytic oxidizer for all organic raw material tanks excluding the methanol storage tank, all finished product tanks, routine process equipment vents, and absorber off-gas vents so that emissions of the Total Organic Compound (TOC) (minus methane and ethane) are reduced by 99 weight-percent, or the emissions are reduced to a TOC concentration of 20 ppmv on a dry basis corrected to 3 percent oxygen, whichever is less stringent. **[R336.1901, R336.1910, 40 CFR Part 60 Subpart III]**

### **Monitoring**

- 1.12 The permittee shall monitor the temperature immediately before and after the catalyst bed of the oxidizer on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. **[R336.1901, R336.1910, 40 CFR Part 60 Subpart III]**
- 1.13 Monitoring of emissions and operating information is required to comply with the Federal Standards of Performance for New Stationary Sources as specified in 40 CFR, Part 60, Subparts A and III. **[R336.1901, R336.1910, 40 CFR Part 60 Subpart III]**
- 1.14 Monitoring of emissions and operating information is required to comply with the Federal Standards of Performance for New Stationary Sources as specified below:
- a) Pumps shall be monitored as required by 40 CFR 60.482-2.
  - b) Compressors shall be monitored as required by 40 CFR 60.482-3
  - c) Pressure relief devices in gas/vapor service shall be operated and monitored as required by 40 CFR 60.482-4
  - d) Sampling connection systems shall be operated and monitored as required by 40 CFR 60.482-5
  - e) Open-ended valves or lines shall be operated and monitored as required by 40 CFR 60.482-6
  - f) Valves in gas/vapor service and in light liquid service shall be monitored as required by 40 CFR 60.482-7
  - g) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored as required by 40 CFR 60.482-8
  - h) Delay of repair as allowed by 40 CFR 60.482-9
  - i) Closed vent systems and control devices shall be monitored as required by 40 CFR 60.482-10
- [R336.1901, R336.1910, 40 CFR Part 60 Subpart VV]**
- 1.15 Monitoring of emissions and operating information is required to comply with the Federal Standards of Performance for New Stationary Sources as specified in 40 CFR, Part 60, Subparts A and Kb. **[R336.1901, R336.1910, 40 CFR Part 60 Subpart Kb]**
- 1.16 The permittee shall monitor the production of formaldehyde and urea formaldehyde concentrate from the formaldehyde process on a daily basis in a manner and with instrumentation acceptable to the Air Quality Division. **[R336.1901, R336.1910]**

#### **Recordkeeping/Reporting/Notification**

- 1.17 The permittee shall record the temperature immediately before and after the catalyst bed of the oxidizer on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. **[40 CFR Part 60 Subpart A]**
- 1.18 Recording of emissions and operating information is required to comply with the Federal Standards of Performance for New Stationary Sources as specified in 40 CFR, Part 60, Subparts A and III. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. **[40 CFR Part 60 Subparts A and III]**
- 1.19 Recording and reporting of emissions and operating information is required to comply with the Federal Standards of Performance for New Stationary Sources as specified in 40 CFR, Part 60.486 and 60.487. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. **[40 CFR Part 60 Subparts A and VV]**
- 1.20 The permittee shall keep records of all calibration activities. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. **[40 CFR Part 60 Subpart III]**

- 1.21 The permittee shall keep an on-site record for each VOC liquid storage tank with a capacity of 40 cubic meters or greater, including the dimensions of the tank and an analysis showing the tank's capacity as specified in 40 CFR, Part 60, Subparts A and Kb. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. **[40 CFR Part 60 Subpart Kb]**
- 1.22 The permittee shall notify the District Supervisor, Air Quality Division of any failure of the catalytic oxidizer and of any emergency release from either the Dow therm or process safety relief vent. Such notice shall be made as soon as reasonably possible, but not later than 9:00 a.m. of the next working day. The permittee shall also, within 10 days, submit to the District Supervisor, a written detailed report, including probable causes, duration of the occurrence, an estimate of emissions during the occurrence, remedial action taken, and the steps which are being undertaken to prevent a reoccurrence. **[R336.1912]**
- 1.23 The permittee shall record the production of formaldehyde and urea formaldehyde concentrate from FGFORMALDEHYE on a daily basis in a manner and with instrumentation acceptable to the Air Quality Division. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. **[R336.1901]**
- 1.24 The permittee shall keep on file a copy of the NSPS manual that the permittee developed for the facility. The NSPS manual is for the purpose of compliance demonstration and shall be kept on file and made available to the Department upon request. **[R336.1702(a), R336.1901]**

**Stack/Vent Restrictions**

	<b>Stack &amp; Vent ID</b>	<b>Maximum Diameter (inches)</b>	<b>Minimum Height Above Ground Level (feet)</b>	<b>Applicable Requirement</b>
1.25a	SVMETHVENT*	6	38	R336.1901
1.25b	SVCATINC**	20	75	R336.1901
1.25c	SVDOWTHERMVENT**	135	45	R336.1901
1.25d	SVRELIEFVENT*	48	40	R336.1901
* The exhaust gases shall be discharged to the ambient air.				
**The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**The following conditions apply to: FGFACILITY**

**Emission Limits**

	<b>Pollutant</b>	<b>Equipment</b>	<b>Limit</b>	<b>Time Period</b>	<b>Compliance Method</b>	<b>Applicable Requirement</b>
2.1a	Individual HAPs	FGFACILITY	Less than 9.0 tpy	12-month rolling time period *	SC 2.2	R336.1205(1)(a), R336.1205(3)
2.1b	Total HAPs	FGFACILITY	Less than 22.5 tpy	12-month rolling time period *	SC 2.2	R336.1205(1)(a), R336.1205(3)
* As determined at the end of each calendar month.						

**Recordkeeping / Reporting / Notification**

2.2 The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period calculations of each individual HAP and the total HAPs emission rates from FGFACILITY. All records are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the Department upon request. **[R336.1205(1)(a), R336.1205(3)]**

## APPENDIX A

1. The formaldehyde, phenol, epichlorohydrin, urea-formaldehyde concentrate, methanol and diethylenetriamine storage tanks (hereinafter, "tanks") and all delivery vessels used to load them shall be equipped, maintained, and controlled with both of the following:
  - a. An interlocking system or procedure to ensure that the collection fitting and vapor-tight collection-line is connected before the tank can be filled.
  - b. A device to ensure that the vapor-tight collection line is closed after disconnection so as to prevent release of any vapor.
2. All delivery vessels used to load the tanks or to receive product shall be equipped with all of the following:
  - a. A device or procedure to accomplish complete drainage before the loading device is disconnected, or a device or procedure to prevent liquid drainage from the loading device when not in use.
  - b. Pressure-vacuum relief valves that are vapor-tight and set to prevent emission of displaced vapor from the delivery vessel during loading operations, except under emergency conditions.
  - c. Hatch openings that are regularly maintained to assure vapor tightness and connected with the vapor balancing and vapor collection during loading operations. .
3. All delivery vessels used to load the tanks or to receive product shall be vapor-tight.
4. All storage tanks containing any volatile organic compound (VOC) or solution containing a VOC shall be vapor-tight during transfers except for the vent into the vapor collection system.
5. The vapor collection system shall convey all displaced vapors to other storage tanks, a delivery vessel, or the catalytic incinerator.
6. Applicant shall develop written procedures for the operation of all the control measures described in items 1, 2, and 3, above, and such procedures shall be posted in an accessible, conspicuous location near the loading equipment. Applicant shall develop written procedures to ensure that the vapor collection system operates as described in items 4 and 5, above. A written log of inspections, repairs, and other maintenance to the vapor collection system shall be maintained for a period of at least two years and made available to the Air Quality Division upon request.