

**STATE OF MISSISSIPPI
AIR POLLUTION CONTROL
PERMIT**

FOR THE PURPOSE OF PERFORMANCE EVALUATION

THIS CERTIFIES THAT

Hercules, Incorporated
West 7th Street
Hattiesburg, Mississippi

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

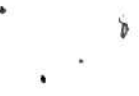
Issued this 20th, day of January, 1988

MISSISSIPPI NATURAL RESOURCES PERMIT BOARD

**DIRECTOR, BUREAU OF POLLUTION CONTROL
MISSISSIPPI DEPARTMENT OF NATURAL RESOURCES**

Expires 20th day of May, 1988

Permit No. 0800-00001
Emission Point 038



|

PART I

Page 2 of 5

Permit No. 0800-00001

**PART I
GENERAL CONDITIONS**

1. All emissions authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any air pollutant identified in this permit more frequently than or at a level in excess of authorized shall constitute a violation of the permit. Any anticipated facility expansions or modifications which will result in new, different, or increased emission of air pollutants must be reported by submission of a new application.
2. The permittee shall at all times maintain in good working order and operate as efficiently as possible all air pollution control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.
3. Solids removed in the course of control of air emissions shall be disposed of in a manner such as to prevent the solids from becoming windborne and to prevent the materials from entering state waters.
4. Any diversion from or bypass of collection and control facilities is prohibited except (i) where unavoidable to prevent loss of life or severe property damage or (ii) when approved by the Mississippi Department of Natural Resources Permit Board.
5. Whenever any emergency, accidental or excessive discharge of air contaminants occurs, the office of the Mississippi Department of Natural Resources Bureau of Pollution Control shall be notified immediately of all information concerning cause of the discharge, point of discharge, volume and characteristics, and whether discharge is continuing or stopped.
6. Should the Executive Director of the Mississippi Department of Natural Resources declare an Air Pollution Control Episode, the permittee will be required to operate in accordance with the permittee's previously approved Emissions Reduction Schedule.
7. The permittee shall allow the Mississippi Department of Natural Resources Bureau of Pollution Control and the Mississippi Department of Natural Resources Permit Board and/or their authorized representatives, upon the presentation of credentials:
 - a. To enter upon the permittee's premises where an air emission source is located or in which any records are required to be kept under the terms and conditions of this permit, and



PART I

Page 3 of 5

Permit No. 0800-0001

- b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any air emission.
8. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to:
 - a. Violation of any terms or conditions of this permit.
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
 - c. A change in any condition that required either a temporary or permanent reduction or elimination of authorized air emissions.
9. Except for data determined to be confidential under the Mississippi Air & Water Pollution Control Law, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Mississippi Department of Natural Resources Bureau of Pollution Control.
10. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
11. Nothing herein contained shall be construed as releasing the permittee from any liability for damage to persons or property by reason of the installation, maintenance, or operation of the air cleaning facility, or from compliance with the applicable statutes of the State, or with local laws, regulations, or ordinances.
12. This permit is non-transferable.
13. This permit is for air pollution control purposes only.
14. This permit is only for the purpose of initial start-up and determining compliance with the applicable terms and conditions of this permit.



PART II

Page 4 of 5
Permit No. 0800-00001

PART II
EMISSION LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning January 20, 1988, and lasting until May 20, 1988, the permittee is authorized to operate air emissions equipment and emit air contaminants from the Neuphor production process, including a carbon adsorption scrubber, Emission Point 038.

During this period the permittee shall demonstrate that the constructed facilities operate in accordance with previously approved design criteria.



PART III

Page 5 of 5

Permit No. 0800-00001

**PART III
OTHER REQUIREMENTS**

- (1) Before the expiration of this permit, a representative of the Bureau of Pollution Control must observe the operation of this system. The company should contact the Bureau when the unit is operating properly under its normal conditions.
- (2) No later than May 1, 1988, a stack test report must be submitted to the Bureau of Pollution Control. The report must describe both qualitatively and quantitatively the emissions from the carbon adsorption scrubber. The permittee must utilize test methods and procedures which have been approved by the Bureau. Also, the Bureau must be notified prior to the test date. At least ten (10) days notice should be given so that an observer can be scheduled to witness the test.

SR-101



STATE OF MISSISSIPPI
DEPARTMENT OF NATURAL RESOURCES
BUREAU OF POLLUTION CONTROL
P.O. BOX 10385
JACKSON, MISSISSIPPI 39209



REC'D
11/23/87

For Agency Use
FACILITY NUMBER
110-0800-00001
Date Received
11 23 87
Month Day Year

APPLICATION FOR PERMIT TO CONSTRUCT AND/OR
OPERATE AIR EMISSIONS EQUIPMENT - GENERAL FORM

APPLICATION FOR: CONSTRUCTION PERMIT RENEWAL - PLEASE CHECK APPROPRIATE BOX

1. Name, Address, Location, and Telephone Number

A. Name HERCULES, INC.

B. Mailing Address of Applicant

1. Street Address or P.O. Box 1937

2. City HATTIESBURG

4. Zip Code 39401

3. State MS

5. Telephone No. 601 545 3450

C. Location of Facility

1. Street WEST 7th STREET

2. City HATTIESBURG

4. Zip Code 39401

3. State MS

5. Telephone No. 601 545 3450

D. If the facility is located outside the City limits, please provide a sketch or description showing the approximate location and attach to this application.

2. SIC Code 2821

3. Number of Employees

4. Principal Product ROSIN DERIVATIVES

5. Principal Raw Materials ROSIN

6. Principal Process ROSIN DERIVATIVES

7. Maximum amount of principal product produced or raw material consumed per day

8. (A) Check here if operation which generates air pollutant emissions occurs all year ,
or specify the months the operation occurs:

(B) Specify how many days per week the operation occurs: 7

(C) Specify how many hours per day the operation occurs: 24

9. If this application is for existing facility permit renewal only, has the facility been modified in any way (including production rate, fuel, and/or raw material changes) during period covered by the Operating Permit Yes No or since 1972? Yes No
If Yes, give year(s) in which modification(s) occurred.

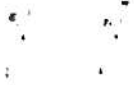
10. ALL APPLICATIONS MUST BE SIGNED BY THE APPLICANT.

I certify that I am familiar with the information contained in the application and that to the best of my knowledge and belief such information is true, complete, and accurate, and that I am the owner or chief corporate officer, or his designated representative, responsible for complying with air pollution control laws and regulations.

G R YANDLE
Printed Name of Person Signing

11/20/87
Date Application Signed

PLANT MANAGER
Title
[Signature]
Signature of Applicant



FOR ALL APPLICANTS, WHETHER NEW CONSTRUCTION, EXISTING FACILITY, OR RENEWAL
CONTROL EQUIPMENT COVERED UNDER THIS APPLICATION - PLEASE CHECK ALL APPLICABLE AND INDICATE
NUMBER OF UNITS.

PARTICULATE EMISSIONS CONTROL EQUIPMENT

- | | |
|-------------------------------------|----------------------------|
| 1. Cyclone(s) _____ | 5. Venturi Scrubber _____ |
| 2. Water Scrubber _____ | 6. Cyclonic Baghouse _____ |
| 3. Baghouse _____ | 7. Cyclonic Scrubber _____ |
| 4. Electrostatic Precipitator _____ | 8. Other _____ |

GASEOUS EMISSIONS CONTROL EQUIPMENT

- | | |
|--------------------------------|----------------|
| 1. Water Scrubber <u> 1 </u> | 3. Other _____ |
| 2. Activated Carbon Bed _____ | |

WASTE DISPOSAL SYSTEMS

- | | |
|--|------------------------------|
| 1. Solid Waste Incinerator _____ | 4. Gaseous Waste Flare _____ |
| 2. Liquid Waste Incinerator _____ | 5. Liquid Waste Flare _____ |
| 3. Wood or Other Waste Fuel Recovery
Boiler _____ | 6. Other _____ |

Pneumatic Conveying System _____

Other (please describe) _____

FOR ALL APPLICANTS

FUEL BURNING EQUIPMENT
(Except for Refuse Disposal)

This form has 3 pages; each is a continuation of the equipment information from the page before. Please fill in as completely as possible, listing all fuel burning equipment. Reasons should be given explaining any data not filled in.

PAGE 1

1. Fill in company name and address, plus year for which data is given (if existing facility) at top of page. Use data for most recent calendar year available.
2. Reference Number. Use an identifying number for each boiler, furnace, kiln, etc., and use the same reference number on each of the three pages to identify information for the same unit.
3. Manufacturer and Model Number. Nameplate data for boiler, furnace, kiln, etc. Waste gas flares and stationary internal combustion engines should also be included on this form.
4. Rated Capacity in Millions of BTU per hour.
5. Type of Burner Unit. Use Codes (1*) at bottom of form. If not listed put (11) and specify.
6. Usage. Type of fuel burning equipment. Use codes (2*) at bottom of form. If not listed put (5) and specify.
7. Heat Usage. Percent of heat used for process and percent for space heating.

8. Reference Number. Continue reference numbers from Page 1, using same number to identify information for same unit.

9. Stack Parameters.
Stack Height in feet from ground.
Stack Inside Exit Diameter in feet.
Exit Gas Velocity in feet per second. (SCFM may be used if velocity is not known; specify units as SCFM if used.)
Exit Gas Temperature in degrees F.

10. Fuel Data
Fuel Type. Coal, gas, #2 oil, #6 oil, etc.
Maximum Capacity burned per hour. Gallons, pounds, cubic feet, etc.
Specify. Average amount burned per year. Gallons, tons, million cubic feet, etc.
Specify. Heat Content of Fuel. BTU per gallon, pound, cubic foot, etc., Specify.
Average Percent Sulfur Content.
Average Percent Ash Content.
(If percent sulfur and percent ash are not known, list fuel type and supplier's name at bottom of page in spaces provided so that information may be obtained.)

PAGE 3

11. Reference Number. Use same numbers as on Pages 1 and 2 to identify information for same unit.

12. Air Pollution Control Equipment.
Manufacturer and Model Number. Information from nameplate. Type. Use Table 1, Page 16. If a wet scrubber, specify gallons per minute of water flow and water pressure if known. Efficiency. Percent design control on pollutants and actual percent control if known.

13. Emission Rates.
Specify tons per year of each of the listed pollutants emitted per year.
Give basis of estimates of pollutants emitted (Material Balance, Stack Tests, Emission Factors, etc.)
(If unit is a kiln or similar unit in which combustion products and process losses vent through a common stack, emissions may be totaled and listed under process losses).

FUEL BURNING EQUIPMENT

(FOR AGENCY USE ONLY)

Reference Number	Stack Parameters			Fuel Type	Fuel Data					
	Stack Height Feet	Inside Exit Dia. Feet	Exit Gas Velocity Feet/Sec.		Exit Gas Temperature Degree F.	Maximum Amount Per Hour (Specify Units)	Amount Per Year (Specify Units)	Heat Content BTU/Gal. etc. (Specify Units)	Percent Sulfur	Percent Ash
* SEE EMISSION POINT 060				NATURAL GAS						

FUEL SUPPLIERS:

Supplier



FOR ALL APPLICANTS
MANUFACTURING PROCESS OPERATIONS

Page 1

1. Company Name and Address, plus year for which information is given (if existing facility) at top of page. Use data for most recent calendar year available.
2. Reference Number. Use an identifying number for each manufacturing process which emits matter to the air and use the same number on all three pages of this form to identify information for the same operation.
3. Process or Unit Operation Name. Identify the unit or process section for which information is given by name.
4. Rated Process Capacity. Give in tons per hour the maximum rated capacity of the process or unit identified, wet weight.
5. Feed Input. Process rate in wet tons per hour and wet tons per year of materials fed to the operation.
6. Number of Emission Points to Air. Number of stacks, vents, etc., which emit materials to air.
7. Product Output. Product rate in wet tons per hour and wet tons per year from the operation.

Page 2

8. Reference Number. Use same number as on Page 1 of form to identify information for same process or operation.
9. Stack Data (or outlet of air cleaning device).
Stack Height in feet above ground.
Stack Inside Diameter in Feet.
Exit Gas Velocity in feet per second. (SCFM may be used if velocity is not known; specify units as SCFM if used).
Exit Gas Temperature in degrees F.
10. Air Pollution Control Equipment.
Manufacturer and Model Number. Nameplate Data.
Type. Use Table 1, Page 16. If a wet scrubber, give water flow in GPM and water pressure.
Collection efficiency. Design and actual collection efficiency if known.

Page 3

11. Reference Number. Use same number as on Pages 1 & 2 of form to identify information for same process or operation.
12. Process Emissions. Give in pounds per hour and tons per year the amount of emissions from the process or operation of each of the two pollutant categories so that process rates versus emission rates may be compared with Regulations. Identify the units of measure used.
Give the basis of the estimates of pollutants emitted (stack tests, material balance, emission factors, etc.)





FOR ALL APPLICANTS
REFUSE DISPOSAL AND INCINERATION

- A. Company Name & Address plus year for which information is given if for renewal of permit, at top of page.
- B. Type Waste. Describe type of waste materials (paper, garbage, wood crates, sawdust, coal refuse, etc.)
- C. Maximum amount per day in pounds.
- D. Average amount per year in tons.
- E. Method of Disposal. Use codes at bottom of Form (1*).

Page 2

1. Type of Incinerator. Check which applies.
2. Manufacturer, Model Number, Capacity in pounds per hour and type waste on which capacity is based (Nameplate Data).
3. Average Quantity Burned in pounds per year.
4. Operating Schedule for Incinerator. Hours per day and days per year incinerator is in operation.
5. Auxiliary Fuel Data.
Type. (Natural Gas, #2 Oil, etc.)
Amount per year. Specify gallons, cubic feet, etc.
Heat Content of Fuel. BTU per gallon, cubic feet, etc.
Percent Sulfur. Average sulfur content of auxiliary fuel.
Percent Ash. Average ash content of auxiliary fuel.
Fuel supplier's name if ash and sulfur content are not known.
6. Pollution Control Equipment on Incinerator.
Manufacturer of Control Device.
Model Number of Control Device.
Percent efficiency of control if known.
Type. Venturi Scrubber, Baghouse, etc., as outlined on other forms.
GPM water flow if control device is a wet scrubber.
7. Stack Data.
Height in Feet above Ground.
Inside Exit Diameter in Feet.
Exit Gas Velocity in Feet per Second.
Exit Gas Volume if Velocity not known.
Exit Gas Temperature in Degrees F if known.
8. Estimated Emission from Refuse Incineration. Give amounts in tons per year and basis of estimates for each of the five listed pollutants.

REFUSE DISPOSAL AND INCINERATION

A

Company Name: HERCULES INC Information for Year: 1988 (Agency Use Only)

Address: W 7th STREET HATTESBURG MS Date: 11/87

B		C		D	E
Description of Waste Materials		Maximum Amount Per Day (Pounds)	Amount Per Year (Tons)	Method of Disposal	
<u>None</u>				<u>LANDFILL WASTE</u>	

If Waste Disposal is by Incineration, Specify the Following:

1. Type of Incinerator:
- single chamber
 - multiple Chamber
 - Modified (describe)
 - Other (describe)

- Rotary
- Flue Fed

2. Manufacturer's Name:

Model Number

Rated Capacity

3. Quantity Burned:

Pounds / Hour

Pounds / Day

Tons / Year

Hours / Day

Days / Year

Type Waste

4. Operating Schedule

*1 Disposal Method Codes

1. Open Burning
2. Landfill (No Burning)
3. Incineration
4. Other
5. Burned in Boiler or Furnance
6. Other (Specify)



(AGENCY USE ONLY)

Empty rectangular box for agency use.

5. Auxiliary Fuel:

Type

Amount/Year (Specify Units)

Heat Content

Percent Sulfur

Percent Ash

Supplier's Name

6. Pollution Control Equipment:

Manufacturer

Model Number

% Efficiency

Type

GPM Water Flow
(If Wet Scrubber)

7. Stack Data:

Height

Feet

Inside Exit Diameter

Feet

Exit Gas Velocity

Feet/Sec.

Exit Gas Volume

SCFM

Exit Gas Temp.

°F.

8. Estimated Emissions From Refuse Incineration:

Name:

Particulates

Tons/Year

Sulfur Oxides

"

Basis of Estimates:

ADDITIONAL INFORMATION REQUIRED FOR APPROVAL TO CONSTRUCT

The following additional information must be submitted. Failure to submit any of the additional information or to conform to the instructions will result in initial denial of the application.

1. Site Plan - The drawing or sketch submitted must be to scale and show at least the following:

- A. The property involved and outlines and heights of all buildings. Identify property lines plainly.
- B. Location and identification of all existing or proposed points of discharge of air contaminants to the atmosphere.
- C. Location of streets and all adjacent properties. Show location of all buildings outside the property that are within 150 feet of the equipment involved in the application. Identify all such buildings (as a residence, apartment, warehouse, etc.), specifying number of stories. Indicate north, and prevailing wind direction.

2. Drawings of Equipment (See Note Below) - Supply an assembly drawing, dimensioned and to scale, and plan elevation in as many sections as are needed to show clearly the design and operation of the equipment and the means by which air contaminants are controlled. The following must be shown:

- A. Size and shape of equipment. Show exterior and interior dimensions and features.
- B. Locations, sizes, and shape details of all features which may affect the production, collection, conveying or control of air contaminants of any kind; location, size and shape details concerning all materials handling equipment.
- C. All data and calculations used in selecting or designing the equipment.
- D. Horsepower rating of all motors driving the equipment.

NOTE: Structural design calculations and details are not required.

ADDITIONAL INFORMATION MAY BE REQUIRED.

3. Description of Process and Control equipment - The application must be accompanied by two copies of a written description of each process to be carried out in the facility and the function of the equipment used in the process. The descriptions must be complete and particular attention must be given to explaining all stages in the process where the discharge of any materials might contribute in any way to air pollution. Control procedures must be described in sufficient detail to show the extent of control of air contaminants anticipated in the design, specifying the expected efficiency of the control devices. All obtainable data must be supplied concerning the nature, volumes, particle size, weights, chemical composition and concentrations of all types of air contaminants.

4. Two copies of a block flow diagram showing the steps of the process and the flow of materials through the process and any control devices must be supplied.

NOTE: THE APPLICATION FORM, SITE PLAN, AND EQUIPMENT MUST BE SIGNED AND STAMPED BY AN ENGINEER REGISTERED IN THE STATE OF MISSISSIPPI.

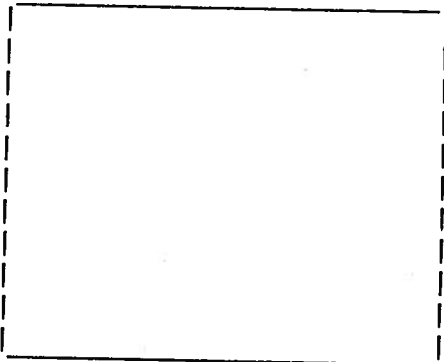
ADDITIONAL INFORMATION

1. Two copies of construction site plot plan.
2. Two copies of detailed equipment drawings.
3. Two copies of a detailed explanation of the process and control equipment.
4. Two copies of a flow diagram of the of the process or operation showing control devices.

SIGNATURES: If for construction, the application must be submitted in duplicate and both copies should also be signed and stamped by an engineer registered in the State of Mississippi. If application is for Existing Facility or Renewal of Permit to Operate, registered engineer's signature not required. All signatures and stamps must be originals on all copies, not photocopies.

TYPED NAME & MISSISSIPPI REGISTRATION NUMBER

SIGNATURE OF ENGINEER REGISTERED IN MISSISSIPPI



Seal of Engineer
Registered in Mississippi

CODE NUMBERS FOR CONTROL DEVICES

TABLE 1

31 high efficiency cyclones	80 Group -- Other
32 settling chamber	Specify
33 simple filters	
34 baghouse (shaking)	
35 baghouse (reverse jet)	
36 dry collector (dynamic)	
40 Group -- WET COLLECTORS	
40 spray chamber -- no baffles	
41 spray chamber -- with baffles	
42 wet cyclones -- rotocione	
43 wet dynamic precipitator	
44 venturi scrubber	
45 spray tower (not absorption -- scrubbers)	
46 packed tower (not absorption -- scrubbers)	
47 condensers (tube and shell); air	
48 barometric condensor with hot wells	
50 Group -- ELECTRICAL PRECIPITATORS	
50 single stage	
51 double stage	
52 precipiton	
60 Group	
60 Counteractant	
70 Group -- SPECIAL	
71 Jet exhausters (air dilution)	
72 Mist eliminators	
80 Group -- Other	
Specify	
01 catalytic combustion	00 Group -- CONTROL BY COMBUSTION
02 furnace combustion	
03 boiler firebox	
04 steam injection flare	
05 venturi flare	
06 direct flame combustion (afterburner)	
10 Group -- ADSORBERS	
10 activated carbon -- nonregenerative	
11 activated carbon -- regenerative	
12 silica gel -- nonregenerative	
13 silica gel -- regenerative	
14 lithium chloride	
15 activated alumina	
16 activated bauxite	
20 Group -- ABSORBERS	
20 sieve plate tower	
21 bubble-cap tower	
22 packed tower	
30 Group -- DRY SEPARATORS AND FILTERS	
30 simple cyclones	
Liquid Mist Control Equipment	
Particulate Matter --	
Vapor Control Equipment	