

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- REVISED

PERMITTEE

Griffith Laboratories U.S.A., Inc.  
Attn: Darryl T. Erickson  
12200 South Central Avenue  
Alsip, Illinois 60803-3105

Application No.: 75060048                      I.D. No.: 031600CBW  
Applicant's Designation:                      Date Received: May 3, 2000  
Subject: Food Ingredients Manufacturing Facility  
Date Issued: July 24, 2000                      Expiration Date: August 6, 2001  
Location: 1437 West 37th Street, Chicago

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of the following units pursuant to the above-referenced application:

three natural-gas-fired boilers;  
two storage silos with baghouses and pneumatic unloading system controlled with baghouse;  
two hoppers with dust collector;  
one spray dryer, two batch cookers with condensers, six product recovery cyclones, packaging system controlled with cyclone and two hydrochloric acid storage tanks controlled with one venture scrubber and two ionizing wet scrubbers;  
three decolorizing tanks controlled with wet cyclone; spice grinder controlled with baghouse;  
two vacuum filters and three vacuum pumps;  
one phosphoric acid storage tank;  
one potassium hydroxide storage tank;  
one sludge storage tank;  
six hydrolyzed vegetable protein (HVP) storage tanks;  
two blenders; two sifters; three dryers; four reactors; four kettles;  
equipment associated with the flavors operation; and  
one ribbon blender with baghouse

This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of Particulate Matter (PM-10) and Hazardous Air Pollutants (HAPs) from the source to less than major source thresholds (i.e., 100 tons/year for PM-10, 10 ton/year for a single HAP and 25 tons/year for totaled HAP). As a result, the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit,

are described in Attachment A.

- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.

- c. This permit supersedes all operating permits for this location.
- 2a. Operation and emissions of the hydrolyzed vegetable protein manufacturing facility shall not exceed the following limits:

<u>Raw Materials</u>	<u>Usage</u>		<u>Uncontrolled Emission Factors</u>		<u>Controlled Emissions</u>	
	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>HCl (Lb/T)</u>	<u>PM (Lb/T)</u>	<u>HCl (T/Mo)</u>	<u>PM-10 (T/Yr)</u>

Bulk Protein Sources:

Process	2,400	28,800	--	48	--	--	0.6	6.9
Storage	1,000	10,000	--	16	--	--	0.1	0.8

Hydrochloric acid  
(35 % concentration):

Process	1,600	16,000	--	--	0.8	8.4	--	--
Storage	--	16,000	0.5	--	--	0.12	--	--

- b. These limits define the potential emissions of PM-10 and HAP (Hydrochloric acid) and are based on the actual emissions determined from the maximum production rate, at least 95% of Hydrochloric acid being neutralized in the reactor, control efficiency of scrubber system 97% for Hydrochloric acid and 99% for particulate matter.
- c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months.
- 3. This permit is issued based on negligible emissions of PM-10 from the process and storage tanks, packaging system, grinder, blenders, sifters, dryers, kettles, and equipment associated with the flavors operation. For this purpose, emissions from each emission source shall not exceed a nominal emission rate of 0.1 lb/hour and 0.44 ton/year.
- 4a. The Permittee shall maintain daily records of the following items:
  - i. The number of batches per day;
  - ii. Amount of Hydrochloric acid used (lb/batch) and its concentration (wt %);
  - iii. Amount of Sodium Hydroxide used (lb/batch) and its concentration (wt %);
  - iv. pH of the solution entering the spray dryer for each batch;

- v. Emission calculation for Hydrochloric acid (lb/batch) based on the actual acid usage and concentration, the percentage of HCl being neutralized in the reactor and scrubber system efficiency.
- b. The Permittee shall maintain monthly records of the following items:
  - i. Usage of raw materials:

- A. Protein sources (tons/month);
- B. Hydrochloric acid (tons/month) and its concentration (wt %);
- ii. Emission calculation for HCl and PM-10 (tons/month) as a sum of daily emission calculations for HCl and as a product of the actual usage of protein sources by emission factors and control efficiency for PM-10.
- c. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Agency and USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Agency request for records during the course of a source inspection.
- 5. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Agency's Compliance Unit in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedances or violation and efforts to reduce emissions and future occurrences.
- 6a. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Firing Rate</u> (mmBtu/hr)	<u>E M I S S I O N S</u>			
		<u>Nitrogen Oxides</u>		<u>Carbon Monoxide</u>	
		<u>(Lb/hr)</u>	<u>(Ton/Yr)</u>	<u>(Lb/hr)</u>	<u>(Ton/Yr)</u>
300 H.P. Clayton Boiler	12.6	1.8	7.7	0.4	1.9
Two boilers (total)	13.4	1.3	5.9	0.3	1.2
Spray dryer	11.5	1.6	7.0	0.4	1.8
Flavoring dryers	3.0	0.3	1.3	0.1	0.3

These limits are based on standard emission factors for natural gas combustion and the maximum firing rate at continuous operation. Compliance with annual limits shall be determined from a running total of 12 months of data.

- 7. Natural gas shall be the only fuel fired in the fuel combustion units. Use of any other fuel will require a revised permit.
- 8. The Permittee shall submit the following additional information from the prior calendar year, along with the Annual Emissions Report, due May 1st

of each year:

a. Usage of raw materials:

i. Protein sources (tons/year);

- ii. Hydrochloric acid (tons/year).

If there have been no exceedances during the prior calendar year, the Annual Emission Report shall include a statement to that effect.

- 8. All reports, notifications, etc., required by this permit shall be sent to:

Illinois Environmental Protection Agency  
Bureau of Air  
Compliance Unit (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

- 9. This permit is issued based upon the addition of a third wire to the 2 ionizing wet scrubbers, without any increase in emissions of air pollutants into the atmosphere.

Please note that this permit is revised to allow the addition of a third wire to the 2 ionizing wet scrubbers.

If you have any questions on this permit, please call John Blazis at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

DES:JPB:drk

cc: IEPA, FOS Region 1  
IEPA, Compliance Unit  
USEPA

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emissions from the Food Ingredient Manufacturing Facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Agency used the annual operating scenario which results in maximum emissions from such a plant. This is usage of 16,000 tons of Hydrochloric acid (concentration 35 %) and 28,800 tons of protein containing raw material per year. The resulting maximum emissions are well below the levels, e.g., 100 tons per year of PM-10, 10 tons per year for a single HAP, and 25 tons per year for totaled HAP at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that material is handled, and control measures are more effective than required in this permit.

1a. Emissions of Hydrochloric acid (HCl) from the process equipment:

HCl Usage		Neutralized in Reactor (Wt %)	Control Efficiency (%)	HCl Emission	
(T/Mo)	(T/Yr)			(T/Mo)	(T/Yr)
1,600	16,000	95	97	0.8	8.4

b. Emissions of Hydrochloric acid (HCl) from the storage tanks:

Annual HCl Throughput (Gal/Year)	Emission Factor (Lb/10 <sup>3</sup> Gal)	Control Efficiency (%)	HCl Emission (Ton/Year)
3,000,000	2.65	97	0.12

These tables define the potential emissions of the Hydrochloric acid (HCl) and is based on the actual emissions determined from the maximum production rate.

2. Emissions of Particulate Matter (PM-10) from process and storage equipment:

Item of Equipment	Process Rate		Emission Factor (Lb/Ton)	Control Efficiency (%)	Particulate Matter (PM-10) Emissions	
	(T/Mo)	(T/Yr)			(Ton/Mo)	(Ton/Yr)
Process Equipment	2,400	28,800	48	99	0.6	6.9
Storage Equipment	1,000	10,000	16	99	0.1	0.8

This tables define the potential emissions of the Particulate Matter (PM-10) and is based on the actual emissions determined from maximum production rate.

3. This permit is issued based on negligible emissions of Particulate Matter (PM-10) from the process and storage tanks, packaging system, grinder, blenders, sifters, dryers, kettles, and equipment associated with flavors operation. For this purpose, emissions from each emission source shall not exceed nominal emission rate of 0.1 lb/hour and 0.44 ton/year.

4. Emissions and operation of fuel combustion equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Firing Rate</u> (mmBtu/hr)	<u>E M I S S I O N S</u>			
		<u>Nitrogen Oxides</u>		<u>Carbon Monoxide</u>	
		<u>(Lb/hr)</u>	<u>(Ton/Yr)</u>	<u>(Lb/hr)</u>	<u>(Ton/Yr)</u>
300 HP Clayton Boiler	12.6	1.8	7.7	0.4	1.9
Two boilers (total)	13.4	1.3	5.9	0.3	1.2
Spray dryer	11.5	1.6	7.0	0.4	1.8
Flavoring dryers	3.0	0.3	1.3	0.1	0.3

This table defines the potential emissions from the fuel combustion sources and are based on the maximum emissions determined from the combustion of natural gas, the maximum firing rate at continuous operation, and standard emission factors.

5. As a consequence of the requirements of this permit, the emissions of hazardous air pollutants (HAP) as listed in Section 112(b) of the Clean Air Act from this source will be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs so that HAP emissions do not trigger the requirements to obtain a Clean Air Act Permit Program permit from the Agency.

DES:JPB:drk