

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- RENEWAL

PERMITTEE

Griffith Laboratories U.S.A., Inc.  
Attn: Darryl T. Erickson  
12200 South Central Avenue  
Alsip, Illinois 60803-3495

|   |                                     |
|---|-------------------------------------|
| <u>Application No.:</u> 75060048                        | <u>I.D. No.:</u> 031600CBW          |
| <u>Applicant's Designation:</u>                         | <u>Date Received:</u> April 4, 2001 |
| <u>Subject:</u> Food Ingredients Manufacturing Facility |                                     |
| <u>Date Issued:</u>                                     | <u>Expiration Date:</u>             |
| <u>Location:</u> 1437 West 37th Street, Chicago 60609   |                                     |

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

three natural-gas-fired boilers;  
two storage silos controlled by baghouses;  
pneumatic unloading system controlled by baghouse;  
two hoppers controlled by dust collector;  
one spray dryer, two batch cookers with condensers, six product recovery cyclones, packaging system controlled by cyclone and two hydrochloric acid storage tanks all controlled by one venture scrubber and two ionizing wet scrubbers;  
three decolorizing tanks controlled by wet cyclone;  
two vacuum filters and three vacuum pumps;  
one phosphoric acid 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 controlled by baghouse

pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

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 with an aerodynamic diameter of 10 microns or less (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 issued for this location.

2. Operation and emissions of the hydrolyzed vegetable protein manufacturing equipment shall not exceed the following limits:

Raw Materials Throughput:

Bulk Protein Materials: 2,450 Ton/Mo, 28,800 Ton/yr  
 Hydrochloric Acid (35% concentration): 1,350 Ton/Mo, 16,000 Ton/Yr  
 Sodium Hydroxide (70% concentration): 740 Ton/Mo, 8,700 Ton/Yr

| <u>Pollutant</u>                   | Emission Factor<br>(Lb/Ton of<br><u>Raw Materials</u> ) | Emissions       |                 |
|------------------------------------|---|-----------------|-----------------|
|                                    |   | <u>(Ton/Mo)</u> | <u>(Ton/Yr)</u> |
| Particulate Matter (PM-10)         | 1.00  | 2.3             | 26.7            |
| Volatile Organic<br>Material (VOM) | 0.42  | 1.0             | 11.2            |
| Hydrochloric Acid                  | --  | 0.8             | 8.4             |

These limits define the potential emissions of PM-10, VOM and HAP (Hydrogen Chloride) and are based on the actual emissions determined from the maximum production rate, stack test data for PM-10 and VOM, at least 95% of Hydrogen Chloride being neutralized in the reactor and control efficiency of scrubber system 97% for Hydrogen Chloride emission. 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 bulk protein raw materials storage silos, process and storage tanks, packaging system, ribbon blender and flavors operation. For this purpose, emissions from each group of emission sources shall not exceed a nominal emission rate of 0.1 lb/hour and 0.44 ton/year.
4. Operation and emissions of the natural gas firing equipment (combined) shall not exceed the following limits:

Natural Gas Usage: 30 mmscf/mo, 360 mmscf/yr

| <u>Pollutant</u>                   | Emission Factor<br>( <u>lb/mmscf</u> ) | Emissions       |                 |
|------------------------------------|--|-----------------|-----------------|
|                                    |  | <u>(Ton/Mo)</u> | <u>(Ton/Yr)</u> |
| Nitrogen Oxides (NO <sub>x</sub> ) | 100                                    | 1.5             | 18.0            |
| Carbon Monoxide (CO)               | 84                                     | 1.3             | 15.1            |
| Particulate Matter (PM)            | 7.6                                    | 0.1             | 1.4             |
| Volatile Organic Materials (VOM)   | 5.5                                    | 0.1             | 1.0             |

These limits are based on the maximum equipment operations and standard emission factors given by AP-42. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

- 5a. 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 and Potassium Hydroxide used (lb/batch) and its concentration (wt %);
  - iv. pH of the solution entering the spray dryer for each batch;
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- 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 calculations of HCl, VOM and PM-10 emissions (tons/month, tons/year) 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;
    - iii. Natural gas usage (mmscf/month).
- 6. 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 Illinois EPA 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 Illinois EPA request for records during the course of a source inspection.
  - 7. 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 Illinois EPA's Compliance and Enforcement Section 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.
  - 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);
  - b. Natural Gas usage (mmscf/mo, mmscf/yr).
9. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Illinois EPA  
Division of Air Pollution Control  
Compliance and Enforcement Section (#40)  
P.O. Box 19276  
Springfield, IL 62794-9276

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and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Illinois EPA  
Division of Air Pollution Control  
9511 West Harrison  
Des Plaines, Illinois 60016

It should be noted that your request to include a new cooker in this FESOP may not be satisfied until the equipment has been constructed in accordance with conditions of the construction permit 01020068.

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

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

DES:VJB

cc: IEPA, FOS Region 1  
IEPA, Compliance and Enforcement Section  
Lotus Notes

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.

1. Operation and emissions of the hydrolyzed vegetable protein manufacturing equipment shall not exceed the following limits:

- a. Bulk Protein Materials Throughput: 2,400 Ton/Mo, 28,800 Ton/yr

| <u>Pollutant</u>                | <u>Emission Factor</u><br>(Lb/Ton) | <u>Emissions</u> |          |
|---------------------------------|------------------------------------|------------------|----------|
|                                 |                                    | (Ton/Mo)         | (Ton/Yr) |
| Particulate Matter (PM)         | 18                                 | 1.9              | 23.3     |
| Volatile Organic Material (VOM) | 0.77                               | 0.9              | 11.1     |

- b. Usage of Hydrochloric Acid (35% concentration) shall not exceed 1,600 Ton/Mo and 16,000 Ton/Yr and emission of Hydrogen Chloride (HCl) shall not exceed 0.8 Ton/Mo and 8.4 ton/Yr.

2. This permit is issued based on negligible emissions of PM-10 from the bulk protein raw materials storage silos, process and storage tanks, packaging system and flavors operation. For this purpose, emissions from each group of emission sources shall not exceed a nominal emission rate of 0.1 lb/hour and 0.44 ton/year.

3. Operation and emissions of the natural gas firing equipment (combined) shall not exceed the following limits:

Natural Gas Usage: 30 mmscf/mo, 360 mmscf/yr

| <u>Pollutant</u>                   | <u>Emission Factor</u><br>(lb/mmscf) | <u>Emissions</u> |          |
|------------------------------------|--------------------------------------|------------------|----------|
|                                    |                                      | (Ton/Mo)         | (Ton/Yr) |
| Nitrogen Oxides (NO <sub>x</sub> ) | 100                                  | 1.5              | 18.0     |
| Carbon Monoxide (CO)               | 84                                   | 1.3              | 15.1     |
| Particulate Matter (PM)            | 7.6                                  | 0.1              | 1.4      |
| Volatile Organic Materials (VOM)   | 5.5                                  | 0.1              | 1.0      |

VJB: