Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

FINAL PERMIT

PERMITTEE

Lorad Chemical Corporation
1200 19th Street North
St. Petersburg, FL 33713

Authorized Representative:
Mr. Alan Saunders, President

Air Permit No. 1030443-005-AO
Permit Expires: 08/15/2016
Minor Air Operation Permit
Project Name: Operation Permit Renewal

This is the final air operation permit, which authorizes the renewed operation of a natural non-Title V specialty inorganic chemical manufacturing facility (Standard Industrial Classification No. 2819). The facility is located in Pinellas County at 1200 19th Street North in St. Petersburg, Florida. The UTM coordinates are Zone 17, 336.52 km East, and 3074.37 km North.

This final permit is organized by the following sections:

Section 1. General Information

Section 2. Administrative Requirements and Facility-wide Specific Conditions

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of final permit. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of final permit, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the

applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
(c) A statement of when and how the petitioner received notice of the agency decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;
(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106.301 of the Florida Administrative Code.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation is not available in this proceeding.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Hillsborough County, Florida

_____ _____

Cindy Zhang-Torres, P.E. Effective Date
Air Permitting Manager

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Permit and the Appendices) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____ to the persons listed below.

Mr. Alan Saunders, President
Lorad Chemical Corporation
alan@loradchemical.com

Mr. Gary Robbins, Environmental Program Coorindinator
Pinellas County Department of Environmental Management
grobbins@pinellascounty.org

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

_____ _____

(Clerk) (Date)

FACILITY AND PROJECT DESCRIPTION

This permit authorizes the renewed operation of an existing natural non-Title V specialty inorganic chemical manufacturing facility. The facility consists of the following two (2) emissions units, which produce small batches of purified and made-to-order metal salts using over 20 reactions. In general, the production processes involve reacting a metal or metal salt with chemicals such as halogen gases or acids, sulfur compounds, nitrates, oxides, borides, or carbides. The reactions are principally conducted in up to 10 electrically heated furnaces (vertical, kiln, tube, and induction furnaces). The facility does not produce products involving lead, mercury, or any radioactive materials. During the process reactions, emissions from combustion reactions, hazardous air pollutants (HAPs), and other chemicals (notably H_2S) are emitted.

Facility ID No. 1030443	
ID No.	Emission Unit Description
001	Aqueous Reactions Room
002	Furnace Room Reaction

NOTE: *Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.*

Exempt Emission Units/Activities

- Three (3) electrically heated drying ovens (<200°C).
  [Rule 62-210.300(3)(b)1., F.A.C.]
- Tank operations – no volatile material are stored in the tanks.
  [Rule 62-210.300(3)(b)1., F.A.C.]

The emissions from the exempt emission units/activities above are not considered in the calculation of facility-wide emissions and are not expected to cause the facility to exceed Title V permitting thresholds.

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- This facility is a natural minor source of air pollution.

PERMIT HISTORY/AFFECTED PERMITS

Renews and Replaces Permit No. 1030443-004-AO

SECTION 2. ADMINISTRATIVE REQUIREMENTS AND FACILITY-WIDE SPECIFIC CONDITIONS (FINAL)

1. Permitting Authority: The permitting authority for this project is the Florida Department of Environmental Protection (Department), Southwest District's Air Resource Management Section. The Southwest District's mailing address and phone number is:

   Florida Department of Environmental Protection
   Southwest District Office
   Air Resource Management Section
   13051 North Telecom Parkway
   Temple Terrace, Florida 33637-0926
   Telephone: 813-632-7600

   All documents related to applications for permits shall be submitted to the above address.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Local Air Program. The mailing address and phone number of the Local Air Program is:

   Pinellas County Air Quality Division
   300 South Garden Avenue
   Clearwater, FL 33756
   Telephone: 727-464-4422

3. Appendices: The following Appendices are attached as part of this permit:
   a. Appendix A. Citation Formats and Glossary of Common Terms;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions; and
   d. Appendix D. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
   [Rule 62-4.080, F.A.C.]

6. Modifications: Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.
   [Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

7. General Pollutant Emission Limiting Standard – Objectionable Odor Prohibited: The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants from this plant which cause or contribute to an objectionable odor. Objectionable odor is defined as "Any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance."
   [Rules 62-296.320(2) and 62-210.200 (Definition of Objectionable Odor), F.A.C.; Pinellas County Code, Section 58-178]

8. Operation Permit Renewal Application: A completed application for renewal of the operation permit shall be submitted to the Permitting Authority with a copy to the Compliance Authority (Pinellas County Department of Environmental Management) no later than 60 days prior to the expiration date of the operation permit. To properly apply for an operation permit, the applicant shall submit the following:
   a. the appropriate permit application form *(see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: http://www.dep.state.fl.us/air/)*;
   b. the appropriate operation permit application fee from Rule 62-4.050(4)(a), F.A.C.;
   c. copies of the most recent two months of records/logs specified in Specific Condition No. A.7.; and
   d. any proposed revisions to the most recently approved O & M Plan by the Compliance Authority.

   [Rules 62-4.030, 62-4.050, 62-4.070(3), 62-4.090, 62-210.300(2), and 62-210.900, F.A.C.]

A. EU No. 001 – Aqueous Reactions Room and EU No. 002 – Furnace Room Reaction

This section of the permit addresses the following emissions units.

ID No.	Emission Unit Description
001	Aqueous Reactions Room - This emissions unit consists of a chloride purification (conducted in a reaction vessel) and aqueous precipitation reactions. Emissions are ducted to Scrubber No. 1 (southernmost), which is a two-stage, packed-bed, alkaline scrubber equipped with a mesh-pad mist eliminator. The scrubber does not have a bypass stack and has a design removal efficiency of 99% for the following gases: H_2S, HCl, and Cl_2.
002	Furnace Room Reaction – This emissions unit consists of sulfide or chloride reactions conducted in tube or vertical furnaces along with carbothermal reactions conducted in crucible and induction furnaces; and combustion reactions conducted in a vertical furnace. Emissions are ducted to Scrubber No. 2 (northernmost), which is a two-stage, packed-bed, alkaline scrubber equipped with a mesh-pad mist eliminator. The scrubber does not have a bypass stack and has a design removal efficiency of 99% for the following gases: H_2S, HCl, and Cl_2.

PERFORMANCE RESTRICTIONS

A.1. Permitted Capacity: The production rate of inorganic chemicals from the reactions of these emissions units that emit HCl, Cl_2, and/or H_2S (i.e., the reactions controlled by the scrubbers) shall not exceed 30 kg/day (66 lbs./day).
[Rule 62-210.200(PTE), F.A.C.; Construction Permit No. 1030443-002-AC]

A.2. Hours of Operation: The hours of operation are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.; Construction Permit No. 1030443-002-AC]

A.3. Circumvention: The permittee shall not allow any person to circumvent any air pollution control device, or allow the emission of air pollutants without the applicable control device operating properly. All process reaction emissions shall be vented to the appropriate scrubber.
[Rules 62-210.650 and 62-4.070(3), F.A.C.; Construction Permit No. 1030443-002-AC]

A.4. Scrubber pH Requirements: Process reactions shall not be conducted unless the appropriate scrubber is operating at a minimum pH of 10.0.
[Rule 62-4.070(3), F.A.C.; Construction Permit No. 1030443-002-AC]

A.5. Scrubber Liquid Flow Rate Requirements: Process reactions shall not be conducted unless the appropriate scrubber is operating at minimum liquid flow rates of :

a. Pre-scrubber – 3.7 gpm
b. Lower Nozzle – 35 gpm
c. Upper Nozzle – 35 gpm

[Rule 62-4.070(3), F.A.C.; Construction Permit No. 1030443-002-AC]

MONITORING REQUIREMENTS

A.6. Monitoring Devices: In order to demonstrate compliance with Specific Condition Nos. A.4. and A.5., the permittee shall install, calibrate, operate, and maintain monitoring devices for the pre-scrubber, lower and upper-nozzle liquid flow rates and the scrubbing liquid pH, in accordance with the vendor's specifications. For each scrubber, the monitoring devices shall display the above flow rates and the scrubbing liquid pH continuously by gauge or digital readout and be recorded at least once per operating day by manual recordkeeping or data logger.
[Rule 62-4.070(3), F.A.C.; Construction Permit No. 1030443-002-AC]

RECORDS AND REPORTS

A.7. Recordkeeping: In order to document compliance with the production limits of Specific Condition No. A.1., and operating limits of Specific Condition Nos. A.4. and A.5., the permittee shall record, at a minimum, the following:

Daily Production Records (each day of operation):

a. Facility Name, Emission Unit No., Date.
b. Total, daily production of inorganic chemicals from reactions controlled by scrubbers (lb or kg).

Daily Scrubber Operations Records (at least once per day):

c. Scrubbing liquid flow rates and pH for each scrubber (EU No. 001 & EU No. 002).
d. Date and time of the measurements.
e. Name of the person responsible for performing the measurements.

MSDS Records:

f. Maintain records (MSD sheets, purchase orders, mass of all HAP containing materials used, etc.) needed to estimate emissions.

[Rules 62 4.070(3), F.A.C. and Pinellas County Code Section 58-90; Construction Permit No. 1030443-002-AC]

A.8. Operation and Maintenance (O&M) Plan: The scrubbers shall be operated and maintained in accordance with the recent Operation and Maintenance (O&M) Plan approved by the Compliance Authority. The approved O&M plan may be revised with the approval of the Compliance Authority. The O&M Plan documentation logs shall be maintained for a minimum of five (5) years. At a minimum the O&M plan shall include:

a. The operating parameters of the control device.

b. Timetable for routine maintenance of the control device as specified by manufacturer.

c. Timetable of routine periodic observations of pollution control device sufficient to ensure proper operation.

d. A list of the type and quantity of the required spare parts for the pollution-control device which are stored on the premises of the permit applicant.

e. A record log which will indicate, at a minimum:

1. When maintenance was performed.
2. What maintenance was performed.
3. Who performed said maintenance and observations.
4. Acceptable parameter ranges for each operational check.

[Rule 62-4.070(3), F.A.C.; Pinellas County Code, Section 58-128; Construction Permit No. 1030443-002-AC]

A.9. Records Retention: The records required by permit shall be retained on file at the facility for at least five (5) years and shall be made available to the Permitting Authority or the Compliance Authority upon request.
[Rules 62 4.070(3), F.A.C. and Pinellas County Code Section 58-90; Construction Permit No. 1030443-002-AC]