



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: March 20, 2012

RE: Halox a Division of ICL Performance Products, LP / 089-31179-00561

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot12/03/07



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Minor Source Operating Permit OFFICE OF AIR QUALITY

Halox a Division of ICL Performance Products, LP
6530 Schneider Avenue
Hammond, Indiana 46320

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a MSOP under 326 IAC 2-6.1.

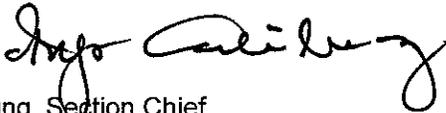
Operation Permit No.: M089-31179-00561	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: March 20, 2012 Expiration Date: March 20, 2017

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary industrial inorganic and organic chemicals and inorganic pigment manufacturing plant.

Source Address:	6530 Schneider Avenue, Hammond, Indiana 46320
General Source Phone Number:	(219) 933-1580
SIC Code:	2819 (Industrial Inorganic Chemicals, Not Elsewhere Classified), 2869 (Industrial Organic Chemicals, Not Elsewhere Classified), and 2816 (Inorganic Pigments)
County Location:	Lake
Source Location Status:	Nonattainment for PM _{2.5} standard Attainment for all other criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

Stack ID 13-S-48

(a) Unit IDs 48-1 and 48-2: Wet Mixing North and South Systems

The Mixing Systems are used to produce paint additives by wet-mixing raw ingredients. Liquid is charged to the mixers from drums and holding tanks and then dry materials in bags are manually added to produce slurries. The mixed slurry is then pumped from the mixers to the wet grinding equipment then to further processing.

Emission units associated with Unit IDs 48-1 and 48-2 were installed in November, 1994. Each system includes a supersack dumper, manual dumper, and two (2) holding tanks.

Each system is vented to a cartridge filter followed by a HEPA unit, identified as 48-1F, 48-1H, 48-2F and 48-2H.
[326 IAC 6.8-2-13(a)]

(b) Unit ID 48-3: Rust Inhibitor Process

The Rust Inhibitor Process mixes various chemical powders and liquids. The powders are dumped manually to the bag unloader and fed into the mixing tank. The liquid raw material is added through the drum station. The mixer discharges into 5-gallon pails or 55-gallon drums.

This system includes a mixing tank, dump station, drum station, and two (2) finished product filling stations.

This system is vented to a baghouse which vents into the Wet Mixing South HEPA unit, identified as 48-3F and 48-2H.
[326 IAC 6.8-2-13(a)]

(c) Unit ID 48-4: Liquid Stain Inhibitor Process

The Liquid Stain Inhibitor Process mixes various chemical powders and liquids. The powders are dumped manually to the bag unloader and fed into the mixing tank. The liquid raw materials are added through the weigh tank. The mixer discharges into the Unit 48-3 filling stations.

Emission units associated with Unit 48-4 were installed in May, 2000. This system includes a weigh tank, mixing tank, dump station, and bulk tank.

This system is vented to the Rust Inhibitor baghouse, identified as 48-3F and 48-2H.
[326 IAC 6.8-2-13(a)]

Note: Control 48-2H (HEPA) is common to units Unit IDs 48-1, 48-2, 48-3, and 48-4.

Stack ID 17-S-25

(d) Unit ID 25-1: North Drum Dryer System

The Drum Dryer System consists of a steam heated drum dryer and interconnecting conveyors. The drum dryers are heated by process steam provided by boilers. The wet slurry is pumped onto the drum dryer where the majority of the moisture is removed. A heated vacuum conveyor line then finishes the drying of the product. The dried material is transferred to holding tanks for storage prior to further processing.

Emission units associated with Unit IDs 25-1 were installed in December, 1992.

The control system is comprised of a dust collecting hood and a scrubber, identified as 25-1S.

[326 IAC 6.8-2-13(a)]

Stack ID 17-S-40

(e) Unit ID 40-1: South Drum Dryer System

The Drum Dryer System consists of a steam heated drum dryer and interconnecting conveyors. The drum dryers are heated by process steam provided by boilers. The wet slurry is pumped onto the drum dryer where the majority of the moisture is removed. A heated vacuum conveyor line then finishes the drying of the product. The dried material is transferred to holding tanks for storage prior to further processing.

Emission units associated with Unit ID 40-1 were installed in July, 1990.

The control system is comprised of a dust collecting hood and a scrubber, identified as 40-1S.

[326 IAC 6.8-2-13(a)]

Stack ID 20-S-41

(f) Unit ID 41-1: North Drum Dryer Silo System

The Drum Dryer Silo System consists of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

Emission units associated with Unit IDs 41-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 41-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-36

(g) Unit ID 36-1: South Drum Dryer Silo System

The Drum Dryer Silo System consists of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

Emission units associated with Unit ID 36-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 36-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-42

(h) Unit ID 42-1: North Mill Charging System

The Mill Charging System consists of an air conveyor system, a primary-receiver baghouse hopper, and interconnecting conveyors. Material is vacuum conveyed from the drum dryer holding tanks to a receiver baghouse and then fed to a mill weigh hopper.

Emission units associated with Unit ID 42-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 42-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-37

(i) Unit ID 37-1: South Mill Charging System

The Mill Charging System consists of an air conveyor system, a primary-receiver baghouse hopper, and interconnecting conveyors. Material is vacuum conveyed from the drum dryer holding tanks to a receiver baghouse and then fed to a mill weigh hopper.

Emission units associated with Unit ID 37-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 37-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-43

(j) Unit ID 43-1: Finished Product East Holding Tank

This system consists of a vacuum conveyor, primary receiver baghouse, interconnecting conveyors and a hopper. The material is vacuum conveyed from dry milling operations to a primary baghouse and from there it is fed to the finished treated product holding tank.

Emission units associated with Unit ID 43-1 were installed in March, 1982.

Emissions from this system are controlled by a baghouse, identified as 43-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-38

(k) Unit ID 38-1: Finished Product West Holding Tank

This system consists of a vacuum conveyor, primary receiver baghouse, interconnecting conveyors and a hopper. The material is vacuum conveyed from dry milling operations to a primary baghouse and from there it is fed to the finished treated product holding tank.

Emission units associated with Unit ID 38-1 were installed in March, 1982.

Emissions from this system are controlled by a baghouse, identified as 38-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-44

(l) Unit ID 44-1: North Product Packing

The packing system consists of an air conveyor, receiver baghouse, hopper, and interconnecting conveyors. Milled products are conveyed to a receiver baghouse and fed to the packing hopper.

Emission units associated with Unit ID 44-1 were installed in March, 1982.

This system is controlled by a baghouse followed by a HEPA, identified as 44-1F and 44-1H.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-39

(m) Unit ID 39-1: South Product Packing

The packing system consists of an air conveyor, receiver baghouse, hopper, and interconnecting conveyors. Milled products are conveyed to a receiver baghouse and fed to the packing hopper.

Emission units associated with Unit ID 39-1 were installed in March, 1982.

This system is controlled by a baghouse followed by a HEPA, identified as 39-1F and 39-1H.

[326 IAC 6.8-2-13(a)]

Stack ID 14-S-45

(n) Unit IDs 45-1 and 45-2: Packing Operation North and South

Each Packing Operation consists of hoppers, packers, and interconnecting conveyors. Material is conveyed to the hoppers which feeds it to the packers. Packed bags are then sent to a palletizer.

Emission units associated with Unit IDs 45-1 and 45-2 were installed in June, 1989.

The two packing systems share a baghouse, identified as 45-1&2F.

[326 IAC 6.8-2-13(a)]

Stack ID 18-S-24

(o) Unit ID 24-1: Cleaver Brooks Boiler No. 1

This Boiler is rated at 8.4 MMBtu/hr and is fueled by natural gas only. There is no pollution control equipment associated with this unit.

Emission units associated with Unit ID 24-1 were installed in 1978.

[326 IAC 6.8-1-2(b)(3) and 326 IAC 6.8-2-13(b)]

Stack ID 18-S-49

(p) Unit ID 49-1: Cleaver Brooks Boiler No. 2

This Boiler is rated at 8.4 MMBtu/hr and is fueled by natural gas only. There is no pollution control equipment associated with this unit.

Emission units associated with Unit ID 49-1 were installed in 1990.

[326 IAC 6.8-1-2(b)(3) and 326 IAC 6.8-2-13(b)]

Halox Organics Facility (No Stacks)

(q) Unit ID: Halox Organics Process

This process mixes liquid products in small batches, which are then packaged directly into drums and pails.

Emission units associated with Unit ID: Halox Organics Process were installed in 2008.

(r) Unit ID: Cold Medium Production

The Mixing Systems are used for wet-mixing raw ingredients. Liquid is charged to the mixers from drums and holding tanks and then dry materials in bags are manually added to produce slurries. The mixed slurry is then pumped from the mixers to the wet grinding equipment then to further processing.

Emission units associated with Unit ID: Cold Medium Production were installed in 2008.

(s) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:

- (1) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.12 MMBtu/hr, and exhausting to the outdoors.
- (2) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.40 MMBtu/hr, and exhausting to the outdoors.
- (3) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.06 MMBtu/hr, and exhausting to the outdoors.
- (4) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.20 MMBtu/hr, and exhausting to the outdoors.

(t) Activities performed using hand-held equipment including the following:

- (1) Application of hot melt adhesives with no VOC in the adhesive formulation.
- (2) Cutting, excluding cutting torches.
- (3) Machining and turning wood, metal, or plastic.
- (4) Buffing, carving, drilling, grinding, polishing, routing, sanding, sawing, and surface grinding.

(u) A petroleum fuel, other than gasoline, dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day or less.

(v) Paved roads and parking lots with public access. [326 IAC 6.8-10-1][326 IAC 6-4]

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, M089-31179-00561, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.9 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.10 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M089-31179-00561 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.11 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least one hundred twenty (120) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.12 Permit Renewal [326 IAC 2-6.1-7]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require an affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least one hundred twenty (120) days prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-6.1-4(b), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.13 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) The Permittee shall notify the OAQ no later than thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.14 Source Modification Requirement

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.15 Inspection and Entry

[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.16 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require an affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.17 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees due no later than thirty (30) calendar days of receipt of a bill from IDEM, OAQ.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.18 Credible Evidence [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

C.1 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Lake County Particulate Matter Contingency Measures [326 IAC 6.8-11-1]

The Permittee shall comply with the applicable provisions of 326 IAC 6.8-11-1 (formerly 326 IAC 6-1-11.2) (Lake County Particulate Matter Contingency Measures).

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
- (2) If there is a change in the following:
- (A) Asbestos removal or demolition start date;
- (B) Removal or demolition contractor; or
- (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project.

- (e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

C.8 Performance Testing [326 IAC 3-6]

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date.
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

C.10 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.11 Continuous Compliance Plan [326 IAC 6.8-8-1] [326 IAC 6.8-8-8]

- (a) Pursuant to 326 IAC 326 IAC 6.8-8-1, the Permittee shall submit to IDEM and maintain at source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring and record keeping in accordance with the information in 326 IAC 6.8-8-5 through 326 IAC 6.8-8-7 or applicable procedures in the CCP.

- (b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy of any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required to IDEM, OAQ within thirty (30) days of the update.
- (c) Pursuant to 326 IAC 6.8-8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP is a violation of 326 IAC 6.8-8.

C.12 Instrument Specifications [326 IAC 2-1.1-11]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps

C.13 Response to Excursions or Exceedances

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system);
or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.

- (e) The Permittee shall record the reasonable response steps taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.15 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.16 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of

permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 13-S-48

(a) Unit IDs 48-1 and 48-2: Wet Mixing North and South Systems

The Mixing Systems are used to produce paint additives by wet-mixing raw ingredients. Liquid is charged to the mixers from drums and holding tanks and then dry materials in bags are manually added to produce slurries. The mixed slurry is then pumped from the mixers to the wet grinding equipment then to further processing.

Emission units associated with Unit IDs 48-1 and 48-2 were installed in November, 1994. Each system includes a supersack dumper, manual dumper, and two (2) holding tanks.

Each system is vented to a cartridge filter followed by a HEPA unit, identified as 48-1F, 48-1H, 48-2F and 48-2H.

[326 IAC 6.8-2-13(a)]

(b) Unit ID 48-3: Rust Inhibitor Process

The Rust Inhibitor Process mixes various chemical powders and liquids. The powders are dumped manually to the bag unloader and fed into the mixing tank. The liquid raw material is added through the drum station. The mixer discharges into 5-gallon pails or 55-gallon drums.

Emission units associated with Unit ID 48-3 were installed in August, 1997. This system includes a mixing tank, dump station, drum station, and two (2) finished product filling stations.

This system is vented to a baghouse which vents into the Wet Mixing South HEPA unit, identified as 48-3F and 48-2H.

[326 IAC 6.8-2-13(a)]

(c) Unit ID 48-4: Liquid Stain Inhibitor Process

The Liquid Stain Inhibitor Process mixes various chemical powders and liquids. The powders are dumped manually to the bag unloader and fed into the mixing tank. The liquid raw materials are added through the weigh tank. The mixer discharges into the Unit 48-3 filling stations.

Emission units associated with Unit 48-4 were installed in May, 2000. This system includes a weigh tank, mixing tank, dump station, and bulk tank.

This system is vented to the Rust Inhibitor baghouse, identified as 48-3F and 48-2H.

[326 IAC 6.8-2-13(a)]

Note: Control 48-2H (HEPA) is common to units Unit IDs 48-1, 48-2, 48-3, and 48-4.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.1.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 13-S-48 shall be limited to 0.022 gr/dscf and 0.471 lbs/hr.

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.3 Particulate Matter less than 10 microns in diameter (PM10) Control

- (a) In order to comply with Condition D.1.1, the baghouse and HEPA systems shall be operated at all times when the associated facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.4 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID 13-S-48 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.5 Baghouse and HEPA Parametric Monitoring

- (a) The Permittee shall record the pressure drop across each baghouse and HEPA filter used in conjunction with the processes associated with Stack ID 13-S-48, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of the following:

(Stack ID 13-S-48)

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 48-1)	
48-1F (Cartridge Filter)	1.0 - 9.0
48-1H (HEPA)	0.1 - 5.0
(Unit ID 48-2)	
48-2F (Cartridge Filter)	1.0 - 9.0
48-2H (HEPA)	0.1 - 5.0
(Unit ID 48-3)	
48-3F (Baghouse)	0.5 - 8.5
48-2H (HEPA)	0.1 - 5.0
(Unit ID 48-4)	
48-3F (Baghouse)	0.5 - 8.5
48-2H (HEPA)	0.1 - 5.0

or a range established during the latest stack test, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.1.6 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.4, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 13-S-48 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.1.5, the Permittee shall maintain daily records of the pressure drop across each baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 17-S-25

(d) Unit ID 25-1: North Drum Dryer System

The Drum Dryer System consists of a steam heated drum dryer and interconnecting conveyors. The drum dryers are heated by process steam provided by boilers. The wet slurry is pumped onto the drum dryer where the majority of the moisture is removed. A heated vacuum conveyor line then finishes the drying of the product. The dried material is transferred to holding tanks for storage prior to further processing.

Emission units associated with Unit IDs 25-1 were installed in December, 1992.

The control system is comprised of a dust collecting hood and a scrubber, identified as 25-1S.

[326 IAC 6.8-2-13(a)]

Stack ID 17-S-40

(e) Unit ID 40-1: South Drum Dryer System

The Drum Dryer System consists of a steam heated drum dryer and interconnecting conveyors. The drum dryers are heated by process steam provided by boilers. The wet slurry is pumped onto the drum dryer where the majority of the moisture is removed. A heated vacuum conveyor line then finishes the drying of the product. The dried material is transferred to holding tanks for storage prior to further processing.

Emission units associated with Unit ID 40-1 were installed in July, 1990.

The control system is comprised of a dust collecting hood and a scrubber, identified as 40-1S.

[326 IAC 6.8-2-13(a)]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.2.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

- (a) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 17-S-25 shall be limited to 0.030 gr/dscf and 2.120 lbs/hr.
- (b) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 17-S-40 shall be limited to 0.030 gr/dscf and 2.120 lbs/hr.

D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.2.3 Particulate Matter less than 10 microns in diameter (PM10) Control

- (a) In order to comply with Condition D.2.1, the scrubbers shall be operated at all times when the associated facilities are in operation.
- (b) In the event that scrubber failure is observed, if operations will continue for ten (10) days or more after the failure is observed before the failed unit will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed unit will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.2.4 Visible Emissions Notations

- (a) Visible emission notations of the Stack IDs 17-S-25 and 17-S-40 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.2.5 Scrubber Parametric Monitoring

- (a) The Permittee shall record the pressure drop across each scrubber (Unit IDs 25-1S and 40-1S) and verify there is a flow at least once daily when in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range of the following:

(Stack IDs 17-S-25 & 17-S-40)

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 25-1)	
25-1S (Scrubber)	10.0 - 20.0
(Unit ID 40-1)	
40-1S (Scrubber)	5.0 - 15.0

or a range established during the latest stack test, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's

obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.2.6 Scrubber Failure Detection

- (a) For a scrubber controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).
- (b) For a scrubber controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).

Scrubber failure can be indicated by a significant drop in the scrubber's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature or flow rate.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.2.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.2.4 the Permittee shall maintain daily records of the visible emission notations of the Stack IDs 17-S-25 and 17-S-40 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.2.5, the Permittee shall maintain daily records of the pressure drop and verify presence of flow to the scrubbers. The Permittee shall include in its daily record when a pressure drop reading or flow verification is not taken and the reason for the lack of a pressure drop reading or flow verification, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 20-S-41

(f) Unit ID 41-1: North Drum Dryer Silo System

The Drum Dryer Silo System consists of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

Emission units associated with Unit IDs 41-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 41-1F.

[326 IAC 6.8-2-13(a)]

Stack ID 20-S-36

(g) Unit ID 36-1: South Drum Dryer Silo System

The Drum Dryer Silo System consists of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

Emission units associated with Unit ID 36-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 36-1F.

[326 IAC 6.8-2-13(a)]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.3.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

- (a) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 20-S-41 shall be limited to 0.022 gr/dscf and 0.450 lbs/hr.
- (b) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 20-S-36 shall be limited to 0.022 gr/dscf and 0.395 lbs/hr.

D.3.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.3.3 Particulate Matter less than 10 microns in diameter (PM10) Control

- (a) In order to comply with Condition D.3.1, the baghouses shall be operated at all times when the associated facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.3.4 Visible Emissions Notations

- (a) Visible emission notations of the Stack IDs 20-S-36 and 20-S-41 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.3.5 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across each baghouse used in conjunction with the processes associated with Stack IDs 20-S-36 and 20-S-41, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of the following:

(Stack IDs 20-S-36 and 20-S-41)

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 36-1)	
36-1F (Baghouse)	1.0 - 9.0
(Unit ID 41-1)	
41-1F (Baghouse)	1.0 - 9.0

or a range established during the latest stack test, the Permittee shall take reasonable

response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.3.6 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.3.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.3.4, the Permittee shall maintain daily records of the visible emission notations of the Stack IDs 20-S-36 and 20-S-41 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.3.5, the Permittee shall maintain daily records of the pressure drop across each baghouse. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.4

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 20-S-42

- (h) Unit ID 42-1: North Mill Charging System

The Mill Charging System consists of an air conveyor system, a primary-receiver baghouse hopper, and interconnecting conveyors. Material is vacuum conveyed from the drum dryer holding tanks to a receiver baghouse and then fed to a mill weigh hopper.

Emission units associated with Unit ID 42-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 42-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-37

- (i) Unit ID 37-1: South Mill Charging System

The Mill Charging System consists of an air conveyor system, a primary-receiver baghouse hopper, and interconnecting conveyors. Material is vacuum conveyed from the drum dryer holding tanks to a receiver baghouse and then fed to a mill weigh hopper.

Emission units associated with Unit ID 37-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 37-1F.
[326 IAC 6.8-2-13(a)]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.4.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

- (a) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 20-S-42 shall be limited to 0.022 gr/dscf and 0.200 lbs/hr, per stack.
- (a) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 20-S-37 shall be limited to 0.022 gr/dscf and 0.200 lbs/hr, per stack.

D.4.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.4.3 Particulate Matter less than 10 microns in diameter (PM10) Control

- (a) In order to comply with Condition D.4.1, the baghouses shall be operated at all times when the associated facilities are in operation.

- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.4.4 Visible Emissions Notations

- (a) Visible emission notations of the Stack IDs 20-S-37 and 20-S-42 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.4.5 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across each baghouse used in conjunction with the processes associated with Stack IDs 20-S-37 and 20-S-42, at least once per day when the process is in operation. When for any one reading, the pressure drop across any baghouse is outside the normal range of the following:

(Stack IDs 20-S-37 and 20-S-42)

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 37-1)	
37-1F (Baghouse)	2.0 - 10.0
(Unit ID 42-1)	
42-1F (Baghouse)	2.0 - 10.0

or a range established during the latest stack test, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.4.6 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.4.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.4.4, the Permittee shall maintain daily records of the visible emission notations of the Stack IDs 20-S-37 and 20-S-42 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.4.5, the Permittee shall maintain daily records of the pressure drop across each baghouse. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.5

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 20-S-43

- (j) Unit ID 43-1: Finished Product East Holding Tank

This system consists of a vacuum conveyor, primary receiver baghouse, interconnecting conveyors and a hopper. The material is vacuum conveyed from dry milling operations to a primary baghouse and from there it is fed to the finished treated product holding tank.

Emission units associated with Unit ID 43-1 were installed in March, 1982.

Emissions from this system are controlled by a baghouse, identified as 43-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-38

- (k) Unit ID 38-1: Finished Product West Holding Tank

This system consists of a vacuum conveyor, primary receiver baghouse, interconnecting conveyors and a hopper. The material is vacuum conveyed from dry milling operations to a primary baghouse and from there it is fed to the finished treated product holding tank.

Emission units associated with Unit ID 38-1 were installed in March, 1982.

Emissions from this system are controlled by a baghouse, identified as 38-1F.
[326 IAC 6.8-2-13(a)]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.5.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

- (a) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 20-S-43 shall be limited to 0.022 gr/dscf and 0.087 lbs/hr.
- (b) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 20-S-38 shall be limited to 0.022 gr/dscf and 0.087 lbs/hr.

D.5.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.5.3 Particulate Matter less than 10 microns in diameter (PM10) Control

- (a) In order to comply with Condition D.5.1, the baghouses shall be operated at all times when the associated facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.5.4 Visible Emissions Notations

- (a) Visible emission notations of the Stack IDs 20-S-38 and 20-S-43 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.5.5 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across each baghouse used in conjunction with the process associated with Stack IDs 20-S-38 and 20-S-43, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of the following:

(Stack IDs 20-S-38 and 20-S-43)

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 38-1)	
38-1F (Baghouse)	1.0 - 9.0
(Unit ID 43-1)	
43-1F (Baghouse)	1.0 - 9.0

or a range established during the latest stack test, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.5.6 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.5.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.5.4, the Permittee shall maintain daily records of the visible emission notations of the Stack IDs 20-S-38 and 20-S-43 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.5.5, the Permittee shall maintain daily records of the pressure drop across each baghouse. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.6

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 20-S-44

(l) Unit ID 44-1: North Product Packing

The packing system consists of an air conveyor, receiver baghouse, hopper, and interconnecting conveyors. Milled products are conveyed to a receiver baghouse and fed to the packing hopper.

Emission units associated with Unit ID 44-1 were installed in March, 1982.

This system is controlled by a baghouse followed by a HEPA, identified as 44-1F and 44-1H.

[326 IAC 6.8-2-13(a)]

Stack ID 20-S-39

(m) Unit ID 39-1: South Product Packing

The packing system consists of an air conveyor, receiver baghouse, hopper, and interconnecting conveyors. Milled products are conveyed to a receiver baghouse and fed to the packing hopper.

Emission units associated with Unit ID 39-1 were installed in March, 1982.

This system is controlled by a baghouse followed by a HEPA, identified as 39-1F and 39-1H.

[326 IAC 6.8-2-13(a)]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.6.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

- (a) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 20-S-44 shall be limited to 0.022 gr/dscf and 0.496 lbs/hr.
- (b) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 20-S-39 shall be limited to 0.022 gr/dscf and 0.496 lbs/hr.

D.6.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.6.3 Particulate Matter less than 10 microns in diameter (PM10) Control

- (a) In order to comply with Condition D.6.1, the baghouse and HEPA systems shall be operated at all times when the associated facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.6.4 Visible Emissions Notations

- (a) Visible emission notations of the Stack IDs 20-S-39 and 20-S-44 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.6.5 Baghouse and HEPA Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouse and HEPA filter used in conjunction with the process associated with Stack IDs 20-S-39 and 20-S-44, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of the following:

(Stack IDs 20-S-39 & 20-S-44)

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 39-1)	
39-1F (Baghouse)	1.0 - 9.0
39-1H (HEPA)	0.1 - 5.0
(Unit ID 44-1)	
44-1F (Baghouse)	1.0 - 9.0
44-1H (HEPA)	0.1 - 5.0

or a range established during the latest stack test, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.6.6 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.6.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.6.4, the Permittee shall maintain daily records of the visible emission notations of the Stack IDs 20-S-39 and 20-S-44 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.6.5, the Permittee shall maintain daily records of the pressure drop across each baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.7

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 14-S-45

- (n) Unit IDs 45-1 and 45-2: Packing Operation North and South

Each Packing Operation consists of hoppers, packers, and interconnecting conveyors. Material is conveyed to the hoppers which feeds it to the packers. Packed bags are then sent to a palletizer.

Emission units associated with Unit IDs 45-1 and 45-2 were installed in June, 1989.

The two packing systems share a baghouse, identified as 45-1&2F.
[326 IAC 6.8-2-13(a)]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.7.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from Stack ID 14-S-45 shall be limited to 0.022 gr/dscf and 0.471 lbs/hr.

D.7.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.7.3 Particulate Matter less than 10 microns in diameter (PM10) Control

- (a) In order to comply with Condition D.7.1, the baghouse shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.7.4 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID 14-S-45 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.7.5 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the processes associated with Stack ID 14-S-45, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of the following:

(Stack ID 14-S-45)

Control Unit ID	Pressure Drop (inches of water)
(Unit IDs 45-1 and 45-2)	
45-1&2F (Baghouse)	0.5 - 8.5

or a range established during the latest stack test, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.7.6 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or

Exceedances).

- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C- Response to Excursions or Exceedances).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.7.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.7.4, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 14-S-45 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.7.5, the Permittee shall maintain daily records of the pressure drop across the baghouse. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.8

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 18-S-24

- (o) Unit ID 24-1: Cleaver Brooks Boiler No. 1

This Boiler is rated at 8.4 MMBtu/hr and is fueled by natural gas only. There is no pollution control equipment associated with this unit.

Emission units associated with Unit ID 24-1 were installed in 1978.
[326 IAC 6.8-1-2(b)(3) and 326 IAC 6.8-2-13(b)]

Stack ID 18-S-49

- (p) Unit ID 49-1: Cleaver Brooks Boiler No. 2

This Boiler is rated at 8.4 MMBtu/hr and is fueled by natural gas only. There is no pollution control equipment associated with this unit.

Emission units associated with Unit ID 49-1 were installed in 1990.
[326 IAC 6.8-1-2(b)(3) and 326 IAC 6.8-2-13(b)]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.8.1 Particulate Matter (PM) [326 IAC 6.8-1-2(b)(3)] [326 IAC 6.8-2-13(b)]

- (a) Pursuant to 326 IAC 6.8-1-2(b)(3), emissions of particulate matter (PM) from Cleaver Brooks Boiler No. 1, which exhausts to Stack ID 18-S-24 shall be limited to 0.01 grains per dry standard cubic foot (gr/dscf).
- (b) Pursuant to 326 IAC 6.8-1-2(b)(3), emissions of particulate matter (PM) from Cleaver Brooks Boiler No. 2, which exhausts to Stack ID 18-S-49 shall be limited to 0.01 grains per dry standard cubic foot (gr/dscf).
- (c) Pursuant to 326 IAC 6.8-2-13(b), combustion sources located at 18-S-24 and stack 18-S-49 shall fire natural gas only.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.8.2 Record Keeping Requirements

- (a) To document the compliance status with Condition D.8.1(c) the Permittee shall maintain monthly records of the fuel usage for each boiler. These records shall be made available upon request by IDEM.
- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.9

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Halox Organics Facility (No Stacks)

(q) Unit ID: Halox Organics Process

This process mixes liquid products in small batches, which are then packaged directly into drums and pails.

Emission units associated with Unit ID: Halox Organics Process were installed in 2008.

(r) Unit ID: Cold Medium Production

The Mixing Systems are used for wet-mixing raw ingredients. Liquid is charged to the mixers from drums and holding tanks and then dry materials in bags are manually added to produce slurries. The mixed slurry is then pumped from the mixers to the wet grinding equipment then to further processing.

Emission units associated with Unit ID: Cold Medium Production were installed in 2008.

(s) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:

- (1) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.12 MMBtu/hr, and exhausting to the outdoors.
- (2) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.40 MMBtu/hr, and exhausting to the outdoors.
- (3) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.06 MMBtu/hr, and exhausting to the outdoors.
- (4) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.20 MMBtu/hr, and exhausting to the outdoors.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.9.1 Particulate Matter (PM) [326 IAC 6.8-1-2(a)]

- (a) Pursuant to 326 IAC 6.8-1-2(a), emissions of particulate matter (PM) from the Halox Organic Process shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf).
- (b) Pursuant to 326 IAC 6.8-1-2(a), emissions of particulate matter (PM) from the Cold Medium Production shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf).
- (c) Pursuant to 326 IAC 6.8-1-2(a), emissions of particulate matter (PM) from each natural gas-fired space heater shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Halox a Division of ICL Performance Products, LP
Address:	6530 Schneider Avenue
City:	Hammond, Indiana 46320
Phone #:	(219) 933-1580
MSOP #:	M089-31179-00561

I hereby certify that Halox a Division of ICL Performance Products, LP is:

still in operation.

I hereby certify that Halox a Division of ICL Performance Products, LP is:

no longer in operation.

in compliance with the requirements of MSOP M089-31179-00561.

not in compliance with the requirements of MSOP M089-31179-00561.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FAX NUMBER: (317) 233-6865

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100 TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF "MALFUNCTION" AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**Indiana Department of Environmental Management
Office of Air Quality**

Addendum to the Technical Support Document (ATSD) for a
Minor Source Operating Permit (MSOP)

Source Background and Description

Source Name: Halox a Division of ICL Performance Products, LP
Source Location: 6530 Schneider Avenue, Hammond, Indiana 46320
County: Lake
SIC Code: 2819 (Industrial Inorganic Chemicals, Not Elsewhere Classified),
2869 (Industrial Organic Chemicals, Not Elsewhere Classified), and
2816 (Inorganic Pigments)
Operation Permit No.: 089-31179-00561
Permit Reviewer: Brian Williams

On February 14, 2012, the Office of Air Quality (OAQ) had a notice published in the Post Tribune, Merrillville, Indiana and The Times, Munster, Indiana, stating that Halox a Division of ICL Performance Products, LP had applied for a MSOP to continue to operate an existing industrial inorganic and organic chemicals and inorganic pigment manufacturing plant. This plant was previously owned by Hammond Group, Inc. and operated under FESOP Renewal No. 089-14165-00219, which was issued on September 11, 2008. The notice also stated that the OAQ proposed to issue a MSOP for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

No comments were received during the public notice period.

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

- (a) IDEM has corrected typographical errors in Section A.2, Section D.3, and Section D.6.

...

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

...

Stack ID 20-S-41

- (f) Unit ID 41-1: North Drum Dryer Silo System

The Drum Dryer Silo System consists of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

...

Stack ID 20-S-36

- (g) Unit ID 36-1: South Drum Dryer Silo System

The Drum Dryer Silo System consists of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

...
SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Stack ID 20-S-41

- (f) Unit ID 41-1: North Drum Dryer Silo System

The Drum Dryer Silo System consists of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

...
Stack ID 20-S-36

- (g) Unit ID 36-1: South Drum Dryer Silo System

The Drum Dryer Silo System consists of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

...
D.6.6 Broken or Failed Bag Detection

IDEM Contact

- (a) Questions regarding this proposed MSOP can be directed to Brian Williams at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5375 or toll free at 1-800-451-6027 extension 4-5375.
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a Minor Source Operating Permit
(MSOP)**

Source Description and Location	
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Source Name:	Halox a Division of ICL Performance Products, LP
Source Location:	6530 Schneider Avenue, Hammond, Indiana 46320
County:	Lake
SIC Code:	2819 (Industrial Inorganic Chemicals, Not Elsewhere Classified), 2869 (Industrial Organic Chemicals, Not Elsewhere Classified), and 2816 (Inorganic Pigments)
Operation Permit No.:	089-31179-00561
Permit Reviewer:	Brian Williams

On November 22, 2011, the Office of Air Quality (OAQ) received an application from Halox a Division of ICL Performance Products, LP related to the operation of an existing industrial inorganic and organic chemicals and inorganic pigment manufacturing plant.

Source Definition

Hammond Group, Inc. (HGI) (Plant ID 089-00219) currently operates three plants under one Federally Enforceable State Operating Permit: Hammond Lead Products, Hammond Expander and Halox. HGI sold the Halox plant to ICL Performance Products, LP (Plant ID 089-00561). IDEM, OAQ has examined whether the Halox plant should remain combined as one major source with the other two plants. The term "major source" is defined at 326 IAC 2-7-1(22). In order for the Halox plant to be considered one major source with the other two plants, the plants must meet all three of the following criteria:

- (1) the plants must be under common ownership or common control;
- (2) the plants must belong to a single major industrial grouping or one must serve as a support facility for the other; and,
- (3) the plants must be located on contiguous or adjacent properties.

The Halox plant has a new owner, ICL Performance Products, LP. HGI continues to own the other two plants. The two corporations do not have any common owners or common corporate officers. The Halox plant and the remaining HGI plants do not have a common owner.

Where there is no common ownership, IDEM's nonrule policy document Air-005 sets out two tests to determine if common control exists. These are the two-pronged test and the but/for test. If either test is satisfied then common control exists.

The two-pronged test examines if one of the sources is an auxiliary activity that directly serves the purpose of a primary source and if the owner or operator of the primary source has a major role in the day-to-day operations of the auxiliary activity. An auxiliary activity directly serves the purpose of a primary activity by supplying a necessary raw material to the primary activity or performing an integral part of the production process for the primary activity.

Day-to-day control of the auxiliary activity by the primary activity may be evidenced by several factors, including:

- is a majority of the output of the auxiliary activity provided to the primary activity?
- can the auxiliary activity contract to provide its products/services to a third-party without the consent of the primary activity?
- can the primary activity assume control of the auxiliary activity under certain circumstances?
- is the auxiliary activity required to complete periodic reports to the primary activity?

If one or a combination of these questions is answered affirmatively, common control may exist.

The Halox plant sends less than one percent of its production to the HGI plants. The HGI plants do not send any output to the Halox plant. Halox is free to provide its output to any customer without HGI's consent. Neither the HGI plants nor the Halox plant can assume control of the other under any circumstances. Neither the HGI plants nor the Halox plant are required to provide periodic reports to the other. The first common control test is not met.

The second common control test is the but/for test. The but/for test asks if the auxiliary activity would exist absent the needs of the primary activity. If all or a majority of the output of the auxiliary activity is consumed by the primary activity the but/for test is satisfied. The Halox plant provides less than one percent of its production to the HGI plants and the HGI plants provide nothing to the Halox plant. The Halox plant could shut down and the HGI plants would be able to continue functioning. The second common control test is also not satisfied. Therefore, no common control exists. Since there is no common ownership or common control, the first element of the major source definition is not met.

The second part of the definition of major source is whether the plants belong to a single major industrial grouping or if one serves as a support facility for the other. The major source definition in 326 IAC 2-7-1(23) states that two sources belong to the same industrial grouping if their pollution emitting activities have the same two-digit Standard Industrial Classification (SIC) Code.

The SIC Code Manual of 1987 sets out how to determine the proper SIC Code for each type of business. More information about SIC Codes is available at http://www.osha.gov/pls/imis/sic_manual.html on the internet. All three plants have the same two-digit SIC Code 28 for the Major Group of Chemical and Allied Products.

A plant is considered a support facility if at least 50% of its total output is dedicated to the other plant. The Halox plant sends less than one percent of its output to the HGI plants. The HGI plants send no output to the Halox plant. However, since the plants all have the same two-digit SIC Code, the second element of the major source definition is met.

The two plants are located on the same property so the third element of the definition is met. However, since all three elements of the major source definition are not met and IDEM, OAQ has determined that the Halox plant and the HGI plants are not part of the same major source.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) FESOP Renewal No. 089-14165-00219, issued on September 11, 2008.
- (b) First Administrative Amendment No. 089-28377-00219, issued on September 4, 2009.
- (c) First Significant Permit Revision No. 089-29891-00219, issued on March 1, 2011.
- (d) Second Administrative Amendment No. 089-30288-00219, issued on March 17, 2011.
- (e) Third Administrative Amendment No. 089-30655-00219, issued on July 19, 2011.
- (f) Fourth Administrative Amendment No. 089-30840-00219, issued on November 1, 2011.

This source is transitioning to a MSOP due to its separation from FESOP Renewal No. 089-14165-00219.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148 th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O ₃	Attainment effective May 11, 2010, for the 8-hour ozone standard. ¹
PM ₁₀	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ The U. S. EPA has acknowledged in both the proposed and final rulemaking for this redesignation that the anti-backsliding provisions for the 1-hour ozone standard no longer apply as a result of the redesignation under the 8-hour ozone standard. Therefore, permits in Lake County are no longer subject to review pursuant to Emission Offset, 326 IAC 2-3. Basic nonattainment designation effective federally April 5, 2005, for PM _{2.5} .	

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Lake County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM_{2.5}**
 U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Lake County as nonattainment for PM_{2.5}. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a lawsuit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's New Source Review Rule for PM_{2.5} promulgated on May 8, 2008. These rules became effective on July 15, 2008. Therefore, direct PM_{2.5} and SO₂ emissions were

reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

- (c) Other Criteria Pollutants
Lake County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

- (a) The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.
- (b) Since this source is classified as a chemical processing plant, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Background and Description of Permitted Emission Units

The Office of Air Quality (OAQ) has reviewed an application, submitted by Halox a Division of ICL Performance Products, LP on November 22, 2011, relating to the transfer of ownership of Halox Division from Hammond Group, Inc. to ICL Performance Products, LP.

The source consists of the following permitted emission units (Note: the existing emission units are identified as they were previously identified in the existing FESOP Renewal No. 089-14165-00219):

Stack ID 13-S-48

- (a) Unit IDs 48-1 and 48-2: Wet Mixing North and South Systems

The Mixing Systems are used to produce paint additives by wet-mixing raw ingredients. Liquid is charged to the mixers from drums and holding tanks and then dry materials in bags are manually added to produce slurries. The mixed slurry is then pumped from the mixers to the wet grinding equipment then to further processing.

Emission units associated with Unit IDs 48-1 and 48-2 were installed in November, 1994. Each system includes a supersack dumper, manual dumper, and two (2) holding tanks.

Each system is vented to a cartridge filter followed by a HEPA unit, identified as 48-1F, 48-1H, 48-2F and 48-2H.

[326 IAC 6.8-2-13(a)]

- (b) Unit ID 48-3: Rust Inhibitor Process

The Rust Inhibitor Process mixes various chemical powders and liquids. The powders are dumped manually to the bag unloader and fed into the mixing tank. The liquid raw material is added through the drum station. The mixer discharges into 5-gallon pails or 55-gallon drums.

Emission units associated with Unit ID 48-3 were installed in August, 1997. This system includes a mixing tank, dump station, drum station, and two (2) finished product filling stations.

This system is vented to a baghouse which vents into the Wet Mixing South HEPA unit, identified as 48-3F and 48-2H.

[326 IAC 6.8-2-13(a)]

(c) Unit ID 48-4: Liquid Stain Inhibitor Process

The Liquid Stain Inhibitor Process mixes various chemical powders and liquids. The powders are dumped manually to the bag unloader and fed into the mixing tank. The liquid raw materials are added through the weigh tank. The mixer discharges into the Unit 48-3 filling stations.

Emission units associated with Unit 48-4 were installed in May, 2000. This system includes a weigh tank, mixing tank, dump station, and bulk tank.

This system is vented to the Rust Inhibitor baghouse, identified as 48-3F and 48-2H.
[326 IAC 6.8-2-13(a)]

Note: Control 48-2H (HEPA) is common to units Unit IDs 48-1, 48-2, 48-3, and 48-4.

Stack ID 17-S-25

(d) Unit ID 25-1: North Drum Dryer System

The Drum Dryer System consists of a steam heated drum dryer and interconnecting conveyors. The drum dryers are heated by process steam provided by boilers. The wet slurry is pumped onto the drum dryer where the majority of the moisture is removed. A heated vacuum conveyor line then finishes the drying of the product. The dried material is transferred to holding tanks for storage prior to further processing.

Emission units associated with Unit IDs 25-1 were installed in December, 1992.

The control system is comprised of a dust collecting hood and a scrubber, identified as 25-1S.
[326 IAC 6.8-2-13(a)]

Stack ID 17-S-40

(e) Unit ID 40-1: South Drum Dryer System

The Drum Dryer System consists of a steam heated drum dryer and interconnecting conveyors. The drum dryers are heated by process steam provided by boilers. The wet slurry is pumped onto the drum dryer where the majority of the moisture is removed. A heated vacuum conveyor line then finishes the drying of the product. The dried material is transferred to holding tanks for storage prior to further processing.

Emission units associated with Unit ID 40-1 were installed in July, 1990.

The control system is comprised of a dust collecting hood and a scrubber, identified as 40-1S.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-41

(f) Unit ID 41-1: North Drum Dryer Silo System

The Drum Dryer Silo System consist of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

Emission units associated with Unit IDs 41-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 41-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-36

(g) Unit ID 36-1: South Drum Dryer Silo System

The Drum Dryer Silo System consist of storage silos, flash dryer, and interconnecting conveyors. From the drum dryer, the material is air swept and cyclone separated. The separated material is screw conveyed to holding tanks to await further processing. The flash dryer is natural gas fired and provides a heated air stream that completes the drying of the material.

Emission units associated with Unit ID 36-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 36-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-42

(h) Unit ID 42-1: North Mill Charging System

The Mill Charging System consists of an air conveyor system, a primary-receiver baghouse hopper, and interconnecting conveyors. Material is vacuum conveyed from the drum dryer holding tanks to a receiver baghouse and then fed to a mill weigh hopper.

Emission units associated with Unit ID 42-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 42-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-37

(i) Unit ID 37-1: South Mill Charging System

The Mill Charging System consists of an air conveyor system, a primary-receiver baghouse hopper, and interconnecting conveyors. Material is vacuum conveyed from the drum dryer holding tanks to a receiver baghouse and then fed to a mill weigh hopper.

Emission units associated with Unit ID 37-1 were installed in March, 1982.

This system is controlled by a baghouse, identified as 37-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-43

(j) Unit ID 43-1: Finished Product East Holding Tank

This system consists of a vacuum conveyor, primary receiver baghouse, interconnecting conveyors and a hopper. The material is vacuum conveyed from dry milling operations to a primary baghouse and from there it is fed to the finished treated product holding tank.

Emission units associated with Unit ID 43-1 were installed in March, 1982.

Emissions from this system are controlled by a baghouse, identified as 43-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-38

(k) Unit ID 38-1: Finished Product West Holding Tank

This system consists of a vacuum conveyor, primary receiver baghouse, interconnecting conveyors and a hopper. The material is vacuum conveyed from dry milling operations to a primary baghouse and from there it is fed to the finished treated product holding tank.

Emission units associated with Unit ID 38-1 were installed in March, 1982.

Emissions from this system are controlled by a baghouse, identified as 38-1F.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-44

(l) Unit ID 44-1: North Product Packing

The packing system consists of an air conveyor, receiver baghouse, hopper, and interconnecting conveyors. Milled products are conveyed to a receiver baghouse and fed to the packing hopper.

Emission units associated with Unit ID 44-1 were installed in March, 1982.

This system is controlled by a baghouse followed by a HEPA, identified as 44-1F and 44-1H.
[326 IAC 6.8-2-13(a)]

Stack ID 20-S-39

(m) Unit ID 39-1: South Product Packing

The packing system consists of an air conveyor, receiver baghouse, hopper, and interconnecting conveyors. Milled products are conveyed to a receiver baghouse and fed to the packing hopper.

Emission units associated with Unit ID 39-1 were installed in March, 1982.

This system is controlled by a baghouse followed by a HEPA, identified as 39-1F and 39-1H.
[326 IAC 6.8-2-13(a)]

Stack ID 14-S-45

(n) Unit IDs 45-1 and 45-2: Packing Operation North and South

Each Packing Operation consists of hoppers, packers, and interconnecting conveyors. Material is conveyed to the hoppers which feeds it to the packers. Packed bags are then sent to a palletizer.

Emission units associated with Unit IDs 45-1 and 45-2 were installed in June, 1989.

The two packing systems share a baghouse, identified as 45-1&2F.
[326 IAC 6.8-2-13(a)]

Stack ID 18-S-24

(o) Unit ID 24-1: Cleaver Brooks Boiler No. 1

This Boiler is rated at 8.4 MMBtu/hr and is fueled by natural gas only. There is no pollution control equipment associated with this unit.

Emission units associated with Unit ID 24-1 were installed in 1978.
[326 IAC 6.8-1-2(b)(3) and 326 IAC 6.8-2-13(b)]

Stack ID 18-S-49

(p) Unit ID 49-1: Cleaver Brooks Boiler No. 2

This Boiler is rated at 8.4 MMBtu/hr and is fueled by natural gas only. There is no pollution control equipment associated with this unit.

Emission units associated with Unit ID 49-1 were installed in 1990.
[326 IAC 6.8-1-2(b)(3) and 326 IAC 6.8-2-13(b)]

Halox Organics Facility (No Stacks)

(q) Unit ID: Halox Organics Process

This process mixes liquid products in small batches, which are then packaged directly into drums and pails.

Emission units associated with Unit ID: Halox Organics Process were installed in 2008.

(r) Unit ID: Cold Medium Production

The Mixing Systems are used for wet-mixing raw ingredients. Liquid is charged to the mixers from drums and holding tanks and then dry materials in bags are manually added to produce slurries. The mixed slurry is then pumped from the mixers to the wet grinding equipment then to further processing.

Emission units associated with Unit ID: Cold Medium Production were installed in 2008.

(s) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:

- (1) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.12 MMBtu/hr, and exhausting to the outdoors.
- (2) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.40 MMBtu/hr, and exhausting to the outdoors.
- (3) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.06 MMBtu/hr, and exhausting to the outdoors.
- (4) One (1) natural gas-fired space heater, with a maximum heat input capacity of 0.20 MMBtu/hr, and exhausting to the outdoors.

- (t) Activities performed using hand-held equipment including the following:
- (1) Application of hot melt adhesives with no VOC in the adhesive formulation.
 - (2) Cutting, excluding cutting torches.
 - (3) Machining and turning wood, metal, or plastic.
 - (4) Buffing, carving, drilling, grinding, polishing, routing, sanding, sawing, and surface grinding.
- (u) A petroleum fuel, other than gasoline, dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand five hundred (3,500) gallons per day or less.
- (v) Paved roads and parking lots with public access. [326 IAC 6.8-10-1][326 IAC 6-4]

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – MSOP

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	53.61
PM10 ⁽¹⁾	53.34
PM2.5	53.18
SO ₂	0.06
NO _x	9.45
VOC	0.53
CO	7.94
GHGs as CO ₂ e	11,411

(1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

HAPs	Potential To Emit (tons/year)
Hexane	0.17
All other HAPs	0.01
TOTAL HAPs	0.18

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of PM, PM10, and PM2.5 are each less than one hundred (100) tons per year, but greater than or equal to twenty-five (25) tons per year. The PTE of all other regulated criteria pollutants are less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. A Minor Source Operating Permit (MSOP) will be issued.

- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.
- (c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

PTE of the Entire Source After Issuance of the MSOP

The table below summarizes the potential to emit of the entire source after issuance of this MSOP, reflecting all limits, of the emission units.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of MSOP (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Stack ID 13-S-48***	3.53	2.06	3.53	0	0	0	0	0	0	0
Stack ID 17-S-25***	1.73	9.29	1.73	0	0	0	0	0	0	0
Stack ID 17-S-40***	1.73	9.29	1.73	0	0	0	0	0	0	0
Stack ID 20-S-41***	0.05	0.10	0.10	0.01	0.88	0.05	0.74	1,058	0.017	0.016 Hexane
Stack ID 20-S-36***	0.05	0.10	0.10	0.01	0.88	0.05	0.74	1,058	0.017	0.016 Hexane
Stack ID 20-S-42***	21.03	0.88	21.03	0	0	0	0	0	0	0
Stack ID 20-S-37***	21.03	0.88	21.03	0	0	0	0	0	0	0
Stack ID 20-S-43***	0.02	0.38	0.02	0	0	0	0	0	0	0
Stack ID 20-S-38***	0.02	0.38	0.02	0	0	0	0	0	0	0
Stack ID 20-S-44***	0.04	2.17	0.04	0	0	0	0	0	0	0
Stack ID 20-S-39***	0.04	2.17	0.04	0	0	0	0	0	0	0
Stack ID 14-S-45***	3.19	2.06	3.19	0	0	0	0	0	0	0
Stack ID 18-S-24	0.07	0.28	0.28	0.02	3.68	0.20	3.09	4,442	0.069	0.066 Hexane
Stack ID 18-S-49	0.07	0.28	0.28	0.02	3.68	0.20	3.09	4,442	0.069	0.066 Hexane
Halox Organics Process	0.001	0.001	0.001	0	0	0.001	0	0	0	0
Cold Medium Production	0.005	0.005	0.005	0	0	0.009	0	0	0	0

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of MSOP (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Natural Gas Combustion Heaters	0.01	0.03	0.03	0.00	0.34	0.02	0.29	412	0.006	0.006
Paved Roads	1.02	0.20	0.05	0	0	0	0	0	0	0
Total PTE of Entire Source	53.61	34.29	53.18	0.06	9.45	0.53	7.94	11,411	0.18	0.17 Hexane
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	250	250	NA	250	250	250	250	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA	NA	NA
*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". **The 100,000 CO ₂ e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. *** PM10 emissions from each stack have been limited pursuant to 326 IAC 6.8-2-13(a)										

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60 Subpart Dc (326 IAC 12), are not included in the permit for the Cleaver Brooks Boiler No. 1 and Cleaver Brooks Boiler No. 2. Construction of these units commenced prior to June 9, 1989 and they have a heat input capacity of less than 10 million Btu/hr.
- (b) The requirements of the New Source Performance Standard for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry (SOCMI), 40 CFR Part 60 Subpart VV (326 IAC 12), are not included in this permit since the source does not produce any of the specified organic chemicals listed in 60.489 as an intermediate or final product.
- (c) The requirements of the New Source Performance Standard for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes, 40 CFR Part 60 Subpart III (326 IAC 12), are not included in this permit since this source does not operate an Air Oxidation Reactor and it does not produce any of the specified organic chemicals listed in 60.617 as a product, co-product, by-product, or intermediate product.
- (d) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry, 40 CFR Part 63, Subpart F (326 IAC 20), are not included in this permit. In accordance with section 63.100(b), this source is not subject to the provisions of Subpart F because this source does not manufacture any of the chemicals listed in table 1 or Tetrahydrobenzaldehyde or Crotonaldehyde.
- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, 40 CFR Part 63, Subpart G (326 IAC 20), are not included in this permit. In accordance with section 63.100(b), this source is not subject to the provisions of Subpart F because this source does not manufacture any of the chemicals listed in table 1 or Tetrahydrobenzaldehyde or Crotonaldehyde.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Organic Hazardous Air Pollutants for Equipment Leaks, 40 CFR Part 63, Subpart H (326 IAC 20), are not included in this permit. In accordance with section 63.100(b), this source is not subject to the provisions of Subpart F because this source does not manufacture any of the chemicals listed in table 1 or Tetrahydrobenzaldehyde or Crotonaldehyde.
- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Miscellaneous Organic Chemical Manufacturing 40 CFR Part 63, Subpart FFFF (326 IAC 20), National Emission Standards for Hazardous Air Pollutants: are not included in this permit since this source is not a major source of hazardous air pollutants (HAP) emissions as defined in section 112(a) of the Clean Air Act (CAA).
- (e) This requirements of the the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Chemical Manufacturing Area Sources, 40 CFR 63, Subpart VVVVVV, are not included in this permit because this source does not operate chemical manufacturing process units that use as feedstocks, generates as byproducts, or produce products that contain concentrations of any of the HAPs listed in Table 1 of this subpart.
- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Chemical Preparations Industry, 40 CFR 63, SubpartBBBBBB, are not included in this permit since this chemical preparations facility does not have at least one chemical preparations operation in target HAP service (as defined in §63.11588). Pursuant to 63.11588, in target HAP service means that equipment in the chemical preparation operation either contains, contacts, or is processing target HAP-containing materials (chromium, lead, manganese, and nickel).
- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Paints and Allied Products Manufacturing, 40 CFR 63, SubpartCCCCCC, are not included in this permit since this source does not meet the definition of a paint and allied products manufacturing facility (as defined in § 63.11607),
- (h) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-6.1 (Minor Source Operating Permits (MSOP))
MSOP applicability is discussed under the Permit Level Determination – MSOP section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of all attainment regulated pollutants are less than 100 tons per year, the potential to emit greenhouse gases (GHGs) is less than 100,000 tons of CO₂e per year, and this source is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (c) 326 IAC 2-1.1-5 (Nonattainment New Source Review)
This existing source is not a major stationary source, under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because the potential to emit particulate matter with a diameter less than ten 2.5 micrometers (PM_{2.5}), is less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply.
- (d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (e) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is located in Lake County, it has actual emissions of NO_x and VOC of less than twenty-five (25) tons per year, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (f) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (g) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The requirements of 326 IAC 6-3-2 are not applicable to this source because it is subject to a more stringent particulate matter limit under 326 IAC 6.8 (Particulate Matter Limitations Lake County).
- (h) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
The source is subject to the requirements of 326 IAC 6-4, because the paved roads have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or

boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

- (i) 326 IAC 6.8-1-1 (Particulate Matter Limitations for Lake County - Applicability)
Pursuant to 326 IAC 6.8-1-1, sources or facilities located in Lake County shall comply with the following emission limits and meet the requirements in 326 IAC 6.8-2, 326 IAC 6.8-4, 326 IAC 6.8-5, 326 IAC 6.8-8, 326 IAC 6.8-9, 326 IAC 6.8-10, and 326 IAC 6.8-11, if the source or facility is specifically listed in 326 IAC 6.8-4, 326 IAC 6.8-5, 326 IAC 6.8-8, 326 IAC 6.8-9, 326 IAC 6.8-10, and 326 IAC 6.8-11; or section 2 of this rule, if the source is not specifically listed but has either the potential to emit one hundred (100) tons or more or actual emissions of ten (10) tons or more of particulate matter per year.

This rule is applicable to this source because it is located in Lake County and Halox Division is specifically listed in 326 IAC 6.8-2-13. In addition, the facilities not specifically listed in 326 IAC 6.8-2-13 are subject to the requirements of 326 IAC 6.8-1-2 because this source has an unlimited potential to emit 53.61 tons of PM per year and has not limited actual PM emissions from the source to less than 10 tons per year.

- (j) 326 IAC 6.8-8 (Lake County: Continuous Compliance Plan)
Pursuant to 326 IAC 6.8-8-1(5) and 326 IAC 6.8-8-1(18)(b), Hammond Group, Inc. (HGI) Halox Division, Lead Products Division, and Hammond Expander Division shall submit a continuous compliance plan to IDEM, OAQ and maintain at the source, a copy of the Continuous Compliance Plan. The Permittee shall perform the inspections, monitoring, and record keeping requirements as specified in 326 IAC 6.8-8-7. The Permittee shall update the CCP (as needed), retain a copy on site, and make the updated CCP available for inspection as specified in 326 IAC 6.8-8-8.
- (k) 326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)
The source is not subject to the requirements of 326 IAC 6.8-10, because the paved roads do not have potential fugitive particulate emissions greater than 5 tons per year.
- (l) 326 IAC 6.8-11 (Lake County: Particulate Matter Contingency Measures)
This source is subject to 326 IAC 6.8-11 because it is listed in 326 IAC 6.8-2. Pursuant to this rule, the source shall comply with 326 IAC 6.8-11-2 through 326 IAC 6.8-11-6.
- (m) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each existing unit at Halox Division is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each existing unit is less than twenty-five (25) tons per year.
- (n) 326 IAC 8-7-2 (Specific VOC Reduction Requirements for Lake County)
This source is not subject to the requirements of 326 IAC 8-7-2 since the source does not have the potential to emit greater than twenty-five (25) tons of VOC per year.

Halox Division

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)(3), this source is not subject to the requirements of 326 IAC 6-3-2 because this source is subject to more stringent particulate limitations in 326 IAC 6.8.
- (b) 326 IAC 6.8-2-13(a) (Lake County: PM10 and total suspended particulates (TSP) emissions – Hammond Group, Inc. (HGI) Halox Division, Lead Products Division, and Hammond Expander Division)
- (1) Pursuant to 326 IAC 6.8-2-13(a), the PM10 emissions from each stack at Halox Division shall be limited as follows:

Source	Emission Limit (gr/dscf)	PM10 Limit (lbs/hr)
Stack 13-S-48	0.022	0.471
Stack 17-S-25	0.030	2.120
Stack 17-S-40	0.030	2.120
Stack 20-S-41	0.022	0.450
Stack 20-S-36	0.022	0.395
Stack 20-S-42	0.022	0.200
Stack 20-S-37	0.022	0.200
Stack 20-S-43	0.022	0.087
Stack 20-S-38	0.022	0.087
Stack 20-S-44	0.022	0.496
Stack 20-S-39	0.022	0.496
Stack 14-S-45	0.022	0.471

The control equipment shall be in operation at all times when the processes associated with each stack are in operation in order to comply with these limits.

- (2) Combustion sources located at 18-S-24 and stack 18-S-49 shall fire natural gas only.

Halox Organics Facility

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)(3), the Halox Organic Process and Cold Medium Production are not subject to the requirements of 326 IAC 6-3-2 because they are subject to more stringent particulate limitations in 326 IAC 6.8.
- (b) 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-2(a), PM emissions from the Halox Organic Process and Cold Medium Production shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)), each.

Natural Gas Combustion

- (a) 326 IAC 6-2 (Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(e), each Cleaver Brooks Boiler is not subject to the requirements of 326 IAC 6-2 because each boiler is subject to more stringent particulate limitations in 326 IAC 6.8. In addition, the natural gas-fired space heaters are not subject to the requirements of 326 IAC 6-2 because they are not a source of indirect heating.
- (b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The natural gas-fired boilers and heaters are exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.
- (c) 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-2(a), PM emissions from each natural gas-fired space heater shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).

Pursuant to 326 6.8-1-2(b)(3), the particulate matter content from each Cleaver Brooks Boiler shall not exceed one-hundredth (0.01) grain per dry standard cubic foot (dscf).

- (d) 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations)
 This source is not subject to 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitations) because the potential to emit sulfur dioxide from each natural gas-fired combustion unit is less than twenty-five (25) tons per year and ten (10) pounds per hour.
- (e) 326 IAC 7-4.1 (Lake County Sulfur Dioxide Emission Limitations)
 This source is located in Lake County and does not have any emission units subject to 326 IAC 7-1.1 and is not specifically listed in 326 IAC 7-4.1-2. Therefore, this source is not subject to the requirements of 326 IAC 7-4.1.
- (f) 326 IAC 9-1-1 (Carbon Monoxide Emission Limits)
 The natural gas-fired combustion units are not subject to 326 IAC 9-1-1 (Carbon Monoxide Emission Limits) because there is no applicable emission limits for the source under 326 IAC 9-1-2.
- (g) 326 IAC 10-1-1 (Nitrogen Oxides Control)
 The natural gas-fired combustion units are not subject to 326 IAC 10-1-1 (Nitrogen Oxides Control) because the source is not located in Clark or Floyd counties.

Compliance Determination, Monitoring and Testing Requirements
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- (a) The compliance determination and monitoring requirements applicable to this source are as follows:

Emission Unit/Control	Operating Parameters	Frequency
Stack ID 20-S-37/Baghouse 37-1F	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 20-S-42/Baghouse 42-1F	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 13-S-48/Cartridge Filters 48-1F through 48-3F and HEPA Filters 48-1H and 48-2H	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 14-S-45/Baghouse 45-1&2F	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 17-S-25/Scrubber 25-1S	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 17-S-40/Scrubber 40-1S	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 20-S-36/Baghouse 36-1F	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 20-S-41/Baghouse 41-1F	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 20-S-39/Baghouse 39-1F and HEPA Filter 39-1H	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 20-S-44/Baghouse 44-1F and HEPA Filter 44-1H	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 20-S-38/Baghouse 38-1F	Pressure Drop	Once per day
	Visible Emissions	Once per day
Stack ID 20-S-43/Baghouse 43-1F	Pressure Drop	Once per day
	Visible Emissions	Once per day

- (b) There are no testing requirements applicable to this source.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on

The continued operation of this source shall be subject to the conditions of the attached proposed MSOP No. 089-31179-00561. The staff recommends to the Commissioner that this MSOP be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Brian Williams at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5375 or toll free at 1-800-451-6027 extension 4-5375.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem

Appendix A: Emission Calculations
Process Emissions
Stack ID 13-S-48

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Stack ID 13-S-48

STACK ID (DIAM:HEIGHT): (2: 50)
 FLOWRATE (ACFM): 10000
 Ts(°F): 70

Unit ID: 48-1 (Wet Mixing North)

CNTRL DEV: Cartridge Filter & HEPA

Maximum Capacity (tons/hr) 2.5

SCC NO. 3-01-035-54			Potential Emissions				
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls		
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.085	99.99%	0.21	0.93	0.000021	0.000093	2.48E-07
PM10	0.085	99.99%	0.21	0.93	0.000021	0.000093	2.48E-07
PM2.5	0.085	99.99%	0.21	0.93	0.000021	0.000093	2.48E-07
SOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
NOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
VOC	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
CO	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
HAPs	0	0.00%	0.00	0.00	0.000000	0.000000	N/A

Each system includes a supersack dumper, manual dumper, (2) holding tanks, Mikro-Pulsaire, & HEPA. Modified Max. Capacity as per 7/24/01 test.
 Control equipment consists of a Mikro-Pul Reverse Jet Air Pulse Cleaning unit with 18 cellulose filter cartridges followed by a HEPA Unit with four filters.
 Emission Factor: Halstab S-12 (Material Dump Station) Stack Test results (6/2/98).

Unit ID: 48-2 (Wet Mixing South)

CNTRL DEV: Cartridge Filter & HEPA

Maximum Capacity (tons/hr) 2.5

SCC NO. 3-01-035-54			Potential Emissions				
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls		
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.085	99.99%	0.21	0.93	0.000021	0.000093	2.48E-07
PM10	0.085	99.99%	0.21	0.93	0.000021	0.000093	2.48E-07
PM2.5	0.085	99.99%	0.21	0.93	0.000021	0.000093	2.48E-07
SOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
NOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
VOC	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
CO	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
HAPs	0	0.00%	0.00	0.00	0.000000	0.000000	N/A

Each system includes a supersack dumper, manual dumper, (2) holding tanks, Mikro-Pulsaire, & HEPA.
 Control equipment consists of a Mikro-Pul Reverse Jet Air Pulse Cleaning unit with 18 cellulose filter cartridges followed by a HEPA Unit with four filters.
 Emission Factor: Halstab S-12 (Material Dump Station) Stack Test results (6/2/98).
 VOCs: TEA & PG have very low vapor pressure (< 1mmHg)

**Appendix A: Emission Calculations
Process Emissions
Stack 13-S-48 Continued**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Unit ID: 48-3 (Rust Inhibitor Process) (Flash-X)

CNTRL DEV: Baghouse & South Side HEPA Maximum Capacity (tons/hr) 0.8 (solid powder throughput)

SCC NO. 3-01-035-54			Potential Emissions				
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls		
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.400	99.99%	0.32	1.40	0.000032	0.000140	3.73E-07
PM10	0.400	99.99%	0.32	1.40	0.000032	0.000140	3.73E-07
PM2.5	0.400	99.99%	0.32	1.40	0.000032	0.000140	3.73E-07
SOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
NOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
VOC	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
CO	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
HAPs	0	0.00%	0.00	0.00	0.000000	0.000000	N/A

Includes a mixing tank, dump station, drum station, and (2) finished product filling stations.
 Control equipment consists of a "Mach" Model #9CAVR62-111 baghouse (#48-3F) which vents into the South side HEPA Unit.
 Maximum Capacity = 1,600 lbs/hr of solid powder; 10,000 lbs/hr of finished product
 Emission Factor from AP-42, Table 8.3-2 Bulk Loading Operations (0.02 lbs/ton) removing the 95% product recovery in scrubber: 0.4 lbs/ton.

Unit ID: 48-4 (Liquid Stain Inhibitor Process) (L-44, L-66)

CNTRL DEV: Rust Inhibitor Baghouse & South Side HEPA Maximum Capacity (tons/hr) 0.15

SCC NO. 3-01-035-54			Potential Emissions				
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls		
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.400	99.99%	0.06	0.26	0.000006	0.000026	7.00E-08
PM10	0.400	99.99%	0.06	0.26	0.000006	0.000026	7.00E-08
PM2.5	0.400	99.99%	0.06	0.26	0.000006	0.000026	7.00E-08
SOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
NOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
VOC	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
CO	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
HAPs	0	0.00%	0.00	0.00	0.000000	0.000000	N/A

Includes a weigh tank, mixing tank, dump station, and ZZA bulk tank.
 Control equipment consists of a Mikro-Pul Reverse Jet Air Pulse Cleaning unit with 18 cellulose filter cartridges followed by a HEPA Unit with four filters.
 Maximum Capacity = 300 lbs/hr of solid powder; 13000 lbs/hr of finished product (6,500 lbs/batch; 2 batches per hour)
 Emission Factor from AP-42, Table 8.3-2 Bulk Loading Operations (0.02 lbs/ton) removing the 95% product recovery in scrubber: 0.4 lbs/ton.

Total: Stack 13-S-48

POLLUTANT	Potential Emissions					Permit Limit	
	Before Controls		After Controls			(lbs/hr)	(TPY)
	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.8050	3.5259	0.0001	0.0004	9.39E-07	N/A	N/A
PM10	0.8050	3.5259	0.0001	0.0004	9.39E-07	0.471	2.06
PM2.5	0.8050	3.5259	0.0001	0.0004	9.39E-07	N/A	N/A
SOx	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A
NOx	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A
VOC	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A
CO	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A
HAPs	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A

Includes an ammonium hydroxide tank and phosphoric acid dispersion tank. PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf; 0.471 lbs/hr

Methodology

Before Control Emissions (lbs/hr) = Max. Capacity (tons/hr) x EF (LB/T)
 Before Control Emissions (TPY) = Before Control Emissions (lbs/hr) x 8,760 (hrs/yr) x 1/2,000 (ton/lbs)
 After Control Emissions (lbs/hr) = Before Control Emissions (lbs/hr) x (1 - CE%)
 After Control Emissions (TPY) = After Control Emissions (lbs/hr) x 8,760 (hrs/yr) x 1/2,000 (ton/lbs)
 After Control Emissions (gr/dscf) = After Control Emissions (lbs/hr) x 7,000 (gr/lb) x 1/60 (hr/min) x (530/(460 + Ts(°F))) x 1/Flowrate (ACFM)

**Appendix A: Emission Calculations
Process Emissions
Stack ID 17-S-25**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Stack ID 17-S-25

STACK ID (DIAM:HEIGHT): (2: 70)
 FLOWRATE (ACFM): 9044
 Ts(°F): 117

Unit ID: 25-1 (North Drum Dryer System)

CNTRL DEV: High efficiency cyclonic Maximum Capacity (tons/hr) 0.9585
 Fisher-Klosterman Scrubber w/ built in venturi and demister

SCC NO. 3-01-035-54			Potential Emissions					Permit Limit	
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls			(lbs/hr)	(TPY)
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.412	80.00%	0.39	1.73	0.078980	0.345934	0.0011	N/A	N/A
PM10	0.412	80.00%	0.39	1.73	0.078980	0.345934	0.0011	2.120	9.29
PM2.5	0.412	80.00%	0.39	1.73	0.078980	0.345934	0.0011	N/A	N/A
SOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A	N/A	N/A
NOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A	N/A	N/A
VOC	0	0.00%	0.00	0.00	0.000000	0.000000	N/A	N/A	N/A
CO	0	0.00%	0.00	0.00	0.000000	0.000000	N/A	N/A	N/A
HAPs	0	0.00%	0.00	0.00	0.000000	0.000000	N/A	N/A	N/A

Emission Factor from stack test of 17-S-40, which is a similar operation performed on 7/24/01. PM10: 326 IAC 6.8-2-13(a): 0.030 gr/dscf; 2.120 lbs/hr
 Capture 80%; Control 99%; Overall 80% used for the dryer/scrubber. Modified Max. Capacity as per 7/24/01 test.

See Page 3 for methodology.

Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-41

Company Name: Halox a Division of ICL Performance Products LP
 Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
 Permit Number: 089-31179-00561
 Reviewer: Brian Williams

Stack ID 20-S-41 STACK ID (DIAM:HEIGHT): (1.33: 48)
 FLOWRATE (ACFM): 3000
 Ts("F): 300

Unit ID: 41-1 (North Drum Dryer Storage Silo) Maximum Capacity (tons/hr) 2.0
 CNTRL DEV: Baghouse
 Process Controls: Receiver Cyclone

POLLUTANT	Potential Emissions						
	SCC NO. 3-01-035-54		Before Controls		After Controls		
	EF(LB/T)	CE (%)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(qr/dscf)
PM	0.00421	99.90%	0.0084	0.0369	0.00001	0.00004	0.0000
PM10	0.00421	99.90%	0.0084	0.0369	0.00001	0.00004	0.0000
PM2.5	0.00421	99.90%	0.0084	0.0369	0.00001	0.00004	0.0000
SOx	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A
NOx	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A
VOC	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A
CO	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A
HAPs	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A

Emission Factor: Halstab S-16 (Blended Product Handling System) stack test results (9/22/99): 0.00421 lbs/ton
 See Page 3 for methodology.

Unit ID: 41-1 (North Drum Dryer Storage Silo)
Natural Gas Combustion

Heat Input Capacity MMBtu/hr
 Potential Throughput MMCF/yr

2.0 17.5

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.02	0.07	0.07	0.01	0.88	0.05	0.74

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined, respectively.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Emission Factor in lb/MMcf	HAPs - Organics			
	Benzene	Dichlorobenzene	Formaldehyde	Hexane
	2.1E-03	1.2E-03	7.5E-02	1.8E+00
Potential Emission in tons/yr	1.84E-05	1.05E-05	6.57E-04	1.58E-02

Emission Factor in lb/MMcf	HAPs - Metals			
	Lead	Cadmium	Chromium	Manganese
	5.0E-04	1.1E-03	1.4E-03	3.8E-04
Potential Emission in tons/yr	4.38E-06	9.64E-06	1.23E-05	3.33E-06

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	1,051	0.02	0.02
Summed Potential Emissions in tons/yr	1,051.2		
CO2e Total in tons/yr	1,057.6		

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
 The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low NOx burner is 0.64.
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-41

Company Name: Halox a Division of ICL Performance Products LP
 Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
 Permit Number: 089-31179-00561
 Reviewer: Brian Williams

Total: Stack 20-S-41

POLLUTANT	Potential Emissions					Permit Limit	
	Before Controls		After Controls			(lbs/hr)	(TPY)
	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.0122	0.0535	0.0038	0.0167	0.0002	N/A	N/A
PM10	0.0236	0.1035	0.0152	0.0666	0.0008	0.450	1.97
PM2.5	0.0236	0.1035	0.0152	0.0666	0.0008	N/A	N/A
SOx	0.0012	0.0053	0.0012	0.0053	N/A	N/A	N/A
NOx	0.2000	0.8760	0.2000	0.8760	N/A	N/A	N/A
VOC	0.0110	0.0482	0.0110	0.0482	N/A	N/A	N/A
CO	0.1680	0.7358	0.1680	0.7358	N/A	N/A	N/A
GHGs as CO2e	241.46	1,057.60	241.46	1,057.6	N/A	N/A	N/A
HAPs	0.0038	0.0165	0.0038	0.0165	N/A	N/A	N/A

Control Equipment comprised of cyclone & MAC Reverse Jet Air Pulse Cleaning unit with 62, eight (8) foot long membrane type filter bags on wire support cages.
 See Page 3 for methodology.

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf, 0.450 lbs/hr

Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-36

Company Name: Halox a Division of ICL Performance Products LP
 Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
 Permit Number: 089-31179-00561
 Reviewer: Brian Williams

Stack ID 20-S-36 STACK ID (DIAM:HEIGHT): (1.33: 48)
 FLOWRATE (ACFM): 3000
 Ts(*F): 300

Unit ID: 36-1 (South Drum Dryer Storage Silo) Maximum Capacity (tons/hr) 2.0
 CNTRL DEV: Baghouse
 Process Controls: Receiver Cyclone

POLLUTANT	SCC NO. 3-01-035-54	Potential Emissions					
		Before Controls			After Controls		
		EF(LB/T)	CE (%)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)
PM	0.00421	99.90%	0.0084	0.0369	0.00001	0.00004	0.0000
PM10	0.00421	99.90%	0.0084	0.0369	0.00001	0.00004	0.0000
PM2.5	0.00421	99.90%	0.0084	0.0369	0.00001	0.00004	0.0000
SOx	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A
NOx	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A
VOC	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A
CO	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A
HAPs	0	0.00%	0.0000	0.0000	0.00000	0.00000	N/A

Emission Factor: Halstab S-16 (Blended Product Handling System) stack test results (9/22/99): 0.00421 lbs/ton
 See Page 3 for methodology.

Unit ID: 36-1 (South Drum Dryer Storage Silo)
Natural Gas Combustion

Heat Input Capacity MMBtu/hr
 Potential Throughput MMCF/yr

2.0 17.5

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100	5.5	84
Potential Emission in tons/yr	0.02	0.07	0.07	0.01	0.88	0.05	0.74

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined, respectively.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.84E-05	1.05E-05	6.57E-04	1.58E-02	2.98E-05

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	4.38E-06	9.64E-06	1.23E-05	3.33E-06	1.84E-05

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	1,051	0.02	0.02
Summed Potential Emissions in tons/yr	1,051.2		
CO2e Total in tons/yr	1,057.6		

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
 The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low NOx burner is 0.64.
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-36

Company Name: Halox a Division of ICL Performance Products LP
 Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
 Permit Number: 089-31179-00561
 Reviewer: Brian Williams

Total: Stack 20-S-36

POLLUTANT	Potential Emissions					Permit Limit	
	Before Controls		After Controls			(lbs/hr)	(TPY)
	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.0122	0.0535	0.0038	0.0167	0.0002	N/A	N/A
PM10	0.0236	0.1035	0.0152	0.0666	0.0008	0.450	1.97
PM2.5	0.0236	0.1035	0.0152	0.0666	0.0008	N/A	N/A
SOx	0.0012	0.0053	0.0012	0.0053	N/A	N/A	N/A
NOx	0.2000	0.8760	0.2000	0.8760	N/A	N/A	N/A
VOC	0.0110	0.0482	0.0110	0.0482	N/A	N/A	N/A
CO	0.1680	0.7358	0.1680	0.7358	N/A	N/A	N/A
GHGs as CO2e	241.46	1,057.60	241.46	1,057.6	N/A	N/A	N/A
HAPs	0.0038	0.0165	0.0038	0.0165	N/A	N/A	N/A

Control Equipment comprised of cyclone & MAC Reverse Jet Air Pulse Cleaning unit with 62, eight (8) foot long membrane type filter bags on wire support cages.
 See Page 3 for methodology.

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf, 0.450 lbs/hr

**Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-42**

**Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams**

Unit ID: 42-1 (North Mill Charging)

STACK ID (DIAM:HEIGHT): (0.50: 38)

Maximum Capacity (tons/hr) 2.0

FLOWRATE (ACFM): 525

CNTRL DEV: Baghouse

Ts(°F): 70

Process Controls: Receiver Filter

SCC NO. 3-01-035-54			Potential Emissions					Permit Limit	
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls			(lbs/hr)	(TPY)
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	2.4002	99.90%	4.80	21.03	0.0048	0.021	0.0011	N/A	N/A
PM10	2.4002	99.90%	4.80	21.03	0.0048	0.021	0.0011	0.200	0.876
PM2.5	2.4002	99.90%	4.80	21.03	0.0048	0.021	0.0011	N/A	N/A
SOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
NOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
VOC	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
CO	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
HAPs	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A

Emission Factor: Halstab S-8 (Mill No. 3) stack test results (10/6/98).

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf; 0.200 lbs/hr

Each mill has a hopper which is part of process.

Control Equipment is two (2) MAC Reverse Jet Air Pulse Cleaning Units with 21, five (5) foot long membrane type filter bags on wire support cages in each unit. See Page 3 for methodology.

Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-37

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Unit ID: 37-1 (South Mill Charging)

STACK ID (DIAM:HEIGHT): (0.50: 38)

Maximum Capacity (tons/hr) 2.0

FLOWRATE (ACFM): 525

CNTRL DEV: Baghouse

Ts(°F): 70

Process Controls: Primary Receiver Filter

SCC NO. 3-01-035-54			Potential Emissions					Permit Limit	
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls			(lbs/hr)	(TPY)
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	2.4002	99.90%	4.80	21.03	0.0048	0.021	0.0011	N/A	N/A
PM10	2.4002	99.90%	4.80	21.03	0.0048	0.021	0.0011	0.200	0.876
PM2.5	2.4002	99.90%	4.80	21.03	0.0048	0.021	0.0011	N/A	N/A
SOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
NOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
VOC	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
CO	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
HAPs	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A

Emission Factor: Halstab S-8 (Mill No. 3) stack test results (10/6/98).

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf; 0.200 lbs/hr

Each mill has a hopper which is part of process.

Control Equipment is two (2) MAC Reverse Jet Air Pulse Cleaning Units with 21, five (5) foot long membrane type filter bags on wire support cages in each unit. See Page 3 for methodology.

**Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-43**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Unit ID: 43-1 (Finished Treated Product - East Holding Tank)

STACK ID (DIAM:HEIGHT): (0.50: 38)

Maximum Capacity (tons/hr) 1.0

FLOWRATE (ACFM): 525

CNTRL DEV: Baghouse

Ts(°F): 70

Process Controls: Receiver Filters

SCC NO. 3-01-035-54			Potential Emissions					Permit Limit	
			Before Controls		After Controls			(lbs/hr)	(TPY)
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)
PM	0.00421	99.90%	0.0042	0.02	0.000004	0.000018	0.000001	N/A	N/A
PM10	0.00421	99.90%	0.0042	0.02	0.000004	0.000018	0.000001	0.087	0.381
PM2.5	0.00421	99.90%	0.0042	0.02	0.000004	0.000018	0.000001	N/A	N/A
SOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
NOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
VOC	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
CO	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
HAPs	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A

Emission Factor: Halstab S-16 (Blended Product Handling System) stack test results (9/22/99).

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf; 0.087 lbs/hr

See Page 3 for methodology.

Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-38

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Unit ID: 38-1 (Finished Treated Product - West Holding Tank)

Maximum Capacity (tons/hr) 1.0

STACK ID (DIAM:HEIGHT): (1.25: 38)

FLOWRATE (ACFM): 525

Ts(°F): 70

CNTRL DEV: Baghouse

Process Controls: Receiver Filters

SCC NO. 3-01-035-54			Potential Emissions					Permit Limit	
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls			(lbs/hr)	(TPY)
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.00421	99.90%	0.0042	0.02	0.000004	0.000018	0.000001	N/A	N/A
PM10	0.00421	99.90%	0.0042	0.02	0.000004	0.000018	0.000001	0.087	0.381
PM2.5	0.00421	99.90%	0.0042	0.02	0.000004	0.000018	0.000001	N/A	N/A
SOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
NOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
VOC	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
CO	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
HAPs	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A

Emission Factor: Halstab S-16 (Blended Product Handling System) stack test results (9/22/99).

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf; 0.087 lbs/hr

See Page 3 for methodology.

**Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-44**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Unit ID: 44-1 (North Product Packing)

STACK ID (DIAM:HEIGHT): (1.25: 48)

Maximum Capacity (tons/hr) 2.0

FLOWRATE (ACFM): 3500

CNTRL DEV: Baghouse & HEPA

Ts(°F): 70

Process Controls: Receiver Baghouse

SCC NO. 3-01-035-54			Potential Emissions					Permit Limit	
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls			(lbs/hr)	(TPY)
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.00421	0.999	0.01	0.04	0.000008	0.000037	0.000000	N/A	N/A
PM10	0.00421	99.90%	0.01	0.04	0.000008	0.000037	0.000000	0.496	2.172
PM2.5	0.00421	99.90%	0.01	0.04	0.000008	0.000037	0.000000	N/A	N/A
SOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
NOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
VOC	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
CO	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
HAPs	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A

Emission Factor: Halstab S-16 (Blended Product Handling System) stack test results (9/22/99).

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf; 0.496 lbs/hr

See Page 3 for methodology.

**Appendix A: Emission Calculations
Process Emissions
Stack ID 20-S-39**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Unit ID: 39-1 (South Product Packing)

Maximum Capacity (tons/hr) 2.0

STACK ID (DIAM:HEIGHT): (1.25: 43)

FLOWRATE (ACFM): 3500

Ts(°F): 70

CNTRL DEV: Baghouse & HEPA

Process Controls: Receiver Baghouse

SCC NO. 3-01-035-54			Potential Emissions					Permit Limit	
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls			(lbs/hr)	(TPY)
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.00421	99.90%	0.01	0.04	0.000008	0.000037	0.000000	N/A	N/A
PM10	0.00421	99.90%	0.01	0.04	0.000008	0.000037	0.000000	0.496	2.172
PM2.5	0.00421	99.90%	0.01	0.04	0.000008	0.000037	0.000000	N/A	N/A
SOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
NOx	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
VOC	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
CO	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A
HAPs	0	0.00%	0.0	0.0	0.0	0.0	N/A	N/A	N/A

Emission Factor: Halstab S-16 (Blended Product Handling System) stack test results (9/22/99).

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf; 0.496 lbs/hr

See Page 3 for methodology.

**Appendix A: Emission Calculations
Process Emissions
Stack ID 14-S-45**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Stack ID 14-S-45

STACK ID (DIAM:HEIGHT): (1.25: 30)
 FLOWRATE (ACFM): 2500
 Ts(°F): 70

Unit ID: 45-1 (Packing Operation - North)

CNTRL DEV: 14-S-45 Baghouse Maximum Capacity (tons/hr) 1.25

SCC NO. 3-01-035-54			Potential Emissions				
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls		
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.291	99.90%	0.36	1.59	0.000364	0.001593	1.70E-05
PM10	0.291	99.90%	0.36	1.59	0.000364	0.001593	1.70E-05
PM2.5	0.291	99.90%	0.36	1.59	0.000364	0.001593	1.70E-05
SOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
NOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
VOC	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
CO	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
HAPs	0	0.00%	0.00	0.00	0.000000	0.000000	N/A

Emission Factor: Halstab S-17 (Bulk/Bag Packaging System) stack test results (10/6/98).

Unit ID: 45-2 (Packing Operation - South)

CNTRL DEV: 14-S-45 Baghouse Maximum Capacity (tons/hr) 1.25

SCC NO. 3-01-035-54			Potential Emissions				
POLLUTANT	EF(LB/T)	CE (%)	Before Controls		After Controls		
			(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.291	99.90%	0.36	1.59	0.000364	0.001593	1.70E-05
PM10	0.291	99.90%	0.36	1.59	0.000364	0.001593	1.70E-05
PM2.5	0.291	99.90%	0.36	1.59	0.000364	0.001593	1.70E-05
SOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
NOx	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
VOC	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
CO	0	0.00%	0.00	0.00	0.000000	0.000000	N/A
HAPs	0	0.00%	0.00	0.00	0.000000	0.000000	N/A

Maximum Design Rate (MDR): The maximum production rate at Halox Division is 20 mmbls/yr (based on 5 days/wk; 24 hr/day)
 Thus, the MDR is 76,923 lbs/day; 3,205 lbs/hr. This is the limiting factor at Halox, and thus, the MDR of 2.5 TPH for the packing system will not increase.

Emission Factor: Halstab S-17 (Bulk/Bag Packaging System) stack test results (10/6/98).

Both packing units share a MicroPul, Reverse Jet Air Pulse Cleaning Unit with 41, eight (8) foot long laminated filter bags on wire support cages.

Total: Stack 14-S-45

POLLUTANT	Potential Emissions					Permit Limit	
	Before Controls		After Controls			(lbs/hr)	(TPY)
	(lbs/hr)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.7275	3.1865	0.0007	0.0032	3.40E-05	N/A	N/A
PM10	0.7275	3.1865	0.0007	0.0032	3.40E-05	0.471	2.06
PM2.5	0.7275	3.1865	0.0007	0.0032	3.40E-05	N/A	N/A
SOx	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A
NOx	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A
VOC	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A
CO	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A
HAPs	0.0000	0.0000	0.0000	0.0000	N/A	N/A	N/A

12/4/98: Approval for Packing Operation Mod (New Palletizing System).

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf; 0.471 lbs/hr

3/17/99: Submitted Exemption notice to HDEM for Semi-bulk Packing Station.

See Page 3 for methodology.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Stack ID 18-S-24**

**Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams**

Unit ID: 24-1 (Clever Brooks Boiler No. 1)

Heat Input Capacity Potential Throughput
MMBtu/hr MMCF/yr

8.4

73.6

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.07	0.28	0.28	0.02	3.68	0.20	3.09

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined, respectively.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	7.726E-05	4.415E-05	2.759E-03	6.623E-02	1.251E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.840E-05	4.047E-05	5.151E-05	1.398E-05	7.726E-05

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	4,415	0.1	0.1
Summed Potential Emissions in tons/yr	4,415		
CO2e Total in tons/yr	4,442		

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Stack ID 18-S-49**

**Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams**

Unit ID: 49-1 (Clever Brooks Boiler No. 2)

Heat Input Capacity Potential Throughput
MMBtu/hr MMCF/yr

8.4

73.6

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100	5.5	84
					**see below		
Potential Emission in tons/yr	0.07	0.28	0.28	0.02	3.68	0.20	3.09

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined, respectively.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	7.726E-05	4.415E-05	2.759E-03	6.623E-02	1.251E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.840E-05	4.047E-05	5.151E-05	1.398E-05	7.726E-05

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	4,415	0.1	0.1
Summed Potential Emissions in tons/yr	4,415		
CO2e Total in tons/yr	4,442		

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emission Calculations
Process Emissions
Halox Organics Facility**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Unit ID: Halox Organics Process No Stack

CNTRL DEV: None Maximum Capacity (tons/hr) 0.003

SCC NO. 4-90-999			Potential Emissions	
			Before Controls	
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(TPY)
PM	0.085	0.00%	0.0003	0.0013
PM10	0.085	0.00%	0.0003	0.0013
PM2.5	0.085	0.00%	0.0003	0.0013
SOx	0	0.00%	0.0000	0.0000
NOx	0	0.00%	0.0000	0.0000
VOC	0.0613	0.00%	0.0002	0.0009
CO	0	0.00%	0.0000	0.0000
HAPs	0	0.00%	0.0000	0.0000

System includes a 300 gal mixing tank.

MDR = 60,000 lbs/yr product (Halox 900, Halox 510 & Halox 515). For Worst-Case emissions, assumed total quantity was Morpholine (in 515) (highest v.p. 7 mmHg @ 20C).

Actually, batch is only 19% Morpholine.

PM & PM10 Emission Factors: Halstab S-12 (Material Dump Station) stack test results (6/2/98).

VOC emissions = 1.84 lbs/yr as per TANKS based on throughput of 7,000 gal/yr, 8.75 lbs/gal Halox 515.

EF (lbs/ton) = (1.84 lbs/yr) / (30 tons/yr) = 0.0613 lbs/ton

Unit ID: Cold Medium Production No Stack

CNTRL DEV: None Maximum Capacity (tons/hr) 0.014

SCC NO. 4-90-999			Potential Emissions	
			Before Controls	
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(TPY)
PM	0.085	0.00%	0.0012	0.0051
PM10	0.085	0.00%	0.0012	0.0051
PM2.5	0.085	0.00%	0.0012	0.0051
SOx	0	0.00%	0.0000	0.0000
NOx	0	0.00%	0.0000	0.0000
VOC	0.158	0.00%	0.0022	0.0095
CO	0	0.00%	0.0000	0.0000
HAPs	0	0.00%	0.0000	0.0000

System includes a 600 gal heated mixing tank.

MDR = 240,000 lbs/yr product. Pine Oil is 80% of MC-80 and has a v.p. of 0.1 mmHg @20C.

PM & PM10 Emission Factors: Halstab S-12 (Material Dump Station) stack test results (6/2/98).

VOC emissions = 18.92 lbs/yr as per TANKS based on throughput of 230,000 gal/yr, 7.5 lbs/gal Pine Oil.

EF (lbs/ton) = (18.92 lbs/yr) / (120 tons/yr) = 0.158 lbs/ton

See Page 3 for methodology.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Halox Division Heaters**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

0.78

6.8

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.01	0.03	0.03	0.00	0.34	0.02	0.29

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined, respectively.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	7.174E-06	4.100E-06	2.562E-04	6.150E-03	1.162E-05

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.708E-06	3.758E-06	4.783E-06	1.298E-06	7.174E-06

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	410	7.86E-03	7.52E-03
Summed Potential Emissions in tons/yr	409.98		
CO2e Total in tons/yr	412.46		

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
 The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	8.0	1.0	8.0	1.0	8.0	2000	0.379	3.0	1106.1
Vehicle (leaving plant) (one-way trip)	8.0	1.0	8.0	21.0	168.0	2000	0.379	3.0	1106.1
Totals			16.0		176.0			6.1	2212.1

Average Vehicle Weight Per Trip =

11.0	tons/trip
------	-----------

 Average Miles Per Trip =

0.38	miles/trip
------	------------

Unmitigated Emission Factor, Ef = $[k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	11.0	11.0	11.0	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m ² = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [1 - (p/4N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = $Ef * [1 - (p/4N)]$
 where p =

125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
-----	---

 N =

365	days per year
-----	---------------

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	1.004	0.201	0.0493	lb/mile
Mitigated Emission Factor, Eext =	0.918	0.184	0.0451	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.56	0.11	0.03	0.51	0.10	0.02
Vehicle (leaving plant) (one-way trip)	0.56	0.11	0.03	0.51	0.10	0.02
Totals	1.11	0.22	0.05	1.02	0.20	0.05

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particle Matter (<2.5 um)
 PTE = Potential to Emit

**Appendix A: Emission Calculations
Unlimited
Summary of Emissions**

Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)										
Process	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Single HAP
Stack ID 13-S-48	3.53	3.53	3.53	0	0	0	0	0	0	0
Stack ID 17-S-25	1.73	1.73	1.73	0	0	0	0	0	0	0
Stack ID 17-S-40	1.73	1.73	1.73	0	0	0	0	0	0	0
Stack ID 20-S-41	0.05	0.10	0.10	0.01	0.88	0.05	0.74	1,058	0.017	0.016 Hexane
Stack ID 20-S-36	0.05	0.10	0.10	0.01	0.88	0.05	0.74	1,058	0.017	0.016 Hexane
Stack ID 20-S-42	21.03	21.03	21.03	0	0	0	0	0	0	0
Stack ID 20-S-37	21.03	21.03	21.03	0	0	0	0	0	0	0
Stack ID 20-S-43	0.02	0.02	0.02	0	0	0	0	0	0	0
Stack ID 20-S-38	0.02	0.02	0.02	0	0	0	0	0	0	0
Stack ID 20-S-44	0.04	0.04	0.04	0	0	0	0	0	0	0
Stack ID 20-S-39	0.04	0.04	0.04	0	0	0	0	0	0	0
Stack ID 14-S-45	3.19	3.19	3.19	0	0	0	0	0	0	0
Stack ID 18-S-24	0.07	0.28	0.28	0.02	3.68	0.20	3.091	4,442	0.069	0.066 Hexane
Stack ID 18-S-49	0.07	0.28	0.28	0.02	3.68	0.20	3.091	4,442	0.069	0.066 Hexane
Halox Organics Process	0.001	0.001	0.001	0	0	0.001	0	0	0	0
Cold Medium Production	0.005	0.005	0.005	0	0	0.009	0	0	0	0
Natural Gas Combustion Heaters	0.01	0.03	0.03	0.002	0.34	0.02	0.29	412	0.006	0.006 Hexane
Paved Roads	1.02	0.20	0.05	0	0	0	0	0	0	0
Total	53.61	53.34	53.18	0.06	9.45	0.53	7.94	11,411	0.18	0.17 Hexane

**Appendix A: Emission Calculations
Limited
Summary of Emissions**

**Company Name: Halox a Division of ICL Performance Products LP
Address City IN Zip: 6530 Schneider Avenue, Hammond, Indiana 46320
Permit Number: 089-31179-00561
Reviewer: Brian Williams**

Limited Potential to Emit (tons/year)										
Process	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Single HAP
Stack ID 13-S-48*	3.53	2.06	3.53	0	0	0	0	0	0	0
Stack ID 17-S-25*	1.73	9.29	1.73	0	0	0	0	0	0	0
Stack ID 17-S-40*	1.73	9.29	1.73	0	0	0	0	0	0	0
Stack ID 20-S-41*	0.054	1.971	0.103	0.005	0.876	0.048	0.736	1,058	0.017	0.016 Hexane
Stack ID 20-S-36*	0.054	1.971	0.103	0.005	0.876	0.048	0.736	1,058	0.017	0.016 Hexane
Stack ID 20-S-42*	21.03	0.88	21.03	0	0	0	0	0	0	0
Stack ID 20-S-37*	21.03	0.88	21.03	0	0	0	0	0	0	0
Stack ID 20-S-43*	0.02	0.38	0.02	0	0	0	0	0	0	0
Stack ID 20-S-38*	0.02	0.38	0.02	0	0	0	0	0	0	0
Stack ID 20-S-44*	0.04	2.17	0.04	0	0	0	0	0	0	0
Stack ID 20-S-39*	0.04	2.17	0.04	0	0	0	0	0	0	0
Stack ID 14-S-45*	3.19	2.06	3.19	0	0	0	0	0	0	0
Stack ID 18-S-24	0.07	0.28	0.28	0.02	3.68	0.20	3.09	4,442	0.069	0.066 Hexane
Stack ID 18-S-49	0.07	0.28	0.28	0.02	3.68	0.20	3.09	4,442	0.069	0.066 Hexane
Halox Organics Process	0.001	0.001	0.001	0	0	0.001	0	0	0	0
Cold Medium Production	0.005	0.005	0.005	0	0	0.009	0	0	0	0
Natural Gas Combustion Heaters	0.01	0.03	0.03	0.002	0.34	0.02	0.29	412	0.006	0.006 Hexane
Paved Roads	1.02	0.20	0.05	0	0	0	0	0	0	0
Total	53.61	34.29	53.18	0.06	9.45	0.53	7.94	11,411	0.18	0.17 Hexane

* The PM10 emissions from each stack have been limited pursuant to 326 IAC 6.8-2-13(a).



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Mike Wagner
Halox a Division of ICL Performance Products, LP
6530 Schneider Ave
Hammond, IN 46320

DATE: March 20, 2012

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Minor Source Operating Permit
089-31179-00561

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Ms. Jean Ziga
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

March 20, 2012

TO: Hammond Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Halox a Division of ICL Performance Products, LP
Permit Number: 089-31179-00561

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	GHOTOPP 3/20/2012 Halox a Division of ICL-PPLP 089-31179-00561 Final		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Mike Wagner Halox a Division of ICL-PPLP 6530 Schneider Ave Hammond IN 46320 (Source CAATS) via confirmed delivery										
2		Barbara G. Perez 506 Lilac Street East Chicago IN 46312 (Affected Party)										
3		Mr. Robert Garcia 3733 Parrish Avenue East Chicago IN 46312 (Affected Party)										
4		Ms. Karen Kroczek 8212 Madison Ave Munster IN 46321-1627 (Affected Party)										
5		Joseph Hero 11723 S Oakridge Drive St. John IN 46373 (Affected Party)										
6		Gary City Council 401 Broadway # 209 Gary IN 46402 (Local Official)										
7		Mr. Larry Davis 268 South, 600 West Hebron IN 46341 (Affected Party)										
8		Gitte Laasby Post Tribune 1433 E. 83rd Ave Merrillville IN 46410 (Affected Party)										
9		Susan Severtson City of Gary Law Dept. 401 Broadway 4th Floor Gary IN 46402 (Local Official)										
10		Jean Ziga 2323 165th Street Hammond IN 46320 (Source – addl contact)										
11		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 (Local Official)										
12		Gary - Hobart Water Corp 650 Madison St, P.O. Box M486 Gary IN 46401-0486 (Affected Party)										
13		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 (Health Department)										
14		WJOB / WZVN Radio 6405 Olcott Ave Hammond IN 46320 (Affected Party)										
15		Hammond Public Library 564 State St Hammond IN 46320-1532 (Library)										

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
14			

Mail Code 61-53

IDEM Staff	GHOTOPP 3/20/2012 Halox a Division of ICL-PPLP 089-31179-00561 Final		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Laurence A. McHugh Barnes & Thornburg 100 North Michigan South Bend IN 46601-1632 (Affected Party)										
2		Shawn Sobocinski 3229 E. Atlanta Court Portage IN 46368 (Affected Party)										
3		Ms. Carolyn Marsh Lake Michigan Calumet Advisory Council 1804 Oliver St Whiting IN 46394-1725 (Affected Party)										
4		Mark Coleman 9 Locust Place Ogden Dunes IN 46368 (Affected Party)										
5		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 (Affected Party)										
6		Craig Hogarth 7901 West Morris Street Indianapolis IN 46231 (Affected Party)										
7		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 (Local Official)										
8		Anthony Copeland 2006 E. 140th Street East Chicago IN 46312 (Affected Party)										
9												
10												
11												
12												
13												
14												
15												

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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