

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Ace Hardware Paint Corporation
Attn: Mr. Harold Thomas
21901 South Central
Matteson, Illinois 60443

Application No.: 04030049

I.D. No.: 031818AAC

Applicant's Designation:

Date Received: March 22, 2004

Subject: Paint Manufacturing

Date Issued: November 3, 2004

Location: 21901 South Central, Matteson

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a new recuperative thermal oxidizer with an existing roto concentrator to control VOM emissions from latex and oil-based paint manufacturing operations as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. The thermal oxidizer and associated operations may be operated for a period of 180 days after initial start-up under this construction permit.
- 2a. The thermal oxidizer shall be in operation during all periods of paint production operations. In the event of a malfunction, oil-based production operations will be shutdown as soon as practical.
- b. The oxidizer combustion chamber shall be preheated to at least the manufacturer's recommended temperature but no less than the temperature at which compliance was demonstrated in the most recent compliance test, or 1400°F in the absence of a compliance test. This temperature shall be maintained during operation.
3. The paint manufacturing operation is subject to and shall comply with the operating requirements of Title 35, Subtitle B, Chapter I, Part 218, Subpart AA: Paint manufacturing for plants that manufacture more than 500,000 gallons per year of paint with less than 10 percent water.
4. Pursuant to 35 Ill. Adm. Code 218.624, no person shall operate an open-top mill, tank, vat or vessel with a volume of more than 45 liters (12 gallons) for the production of paint or ink unless:
 - a. The mill, tank, vat or vessel is equipped with a cover, which completely covers the mill, tank, vat or vessel opening except for an opening no larger than necessary to allow for safe clearance for a mixer shaft. Such cover shall extend at least 1.27 cm (0.5 in) beyond the outer rim of the opening or be attached to the rim.

- b. The cover remains closed except when production, sampling, maintenance or inspection procedures require access.
 - c. The cover is maintained in good condition such that, when in place, it maintains contact with the rim of the opening for at least 90 percent of the circumference of the rim.
5. Pursuant to 35 Ill. Adm. Code 218.625:
- a. No person shall operate a grinding mill for the production of paint or ink, which is not maintained in accordance with the manufacturer's specifications.
 - b. No person shall operate a grinding mill fabricated or modified after the effective date of this Subpart, which is not equipped with fully enclosed screens.
 - c. The manufacturer's specifications shall be kept on file at the plant by the owner or operator of the grinding mill and be made available to any person upon verbal or written request during business hours.
6. Pursuant to 35 Ill. Adm. Code 218.626:
- a. The owner or operator shall equip tanks storing VOL with a vapor pressure greater than 10 kPa (1.5 psi) at 20°C (68°F) with pressure/vacuum conservation vents set as a minimum at ± 0.2 kPa (0.029 psi). These controls shall be operated at all times. An alternative air pollution control system may be used if it results in a greater emission reduction than these controls. Any alternative control system can be allowed only if approved by the Illinois EPA and approved by the USEPA as a SIP revision.
 - b. Stationary VOL Storage containers with a capacity greater than 946 liters (250 gallons) shall be equipped with a submerged-full pipe or bottom fill. These controls shall be operated at all times. An alternative control system can be allowed only if approved by the Illinois EPA and approved by the USEPA as a SIP revision.
7. Pursuant to 35 Ill. Adm. Code 218.628, the owner or operator of a paint or ink manufacturing source shall, for the purpose of detecting leaks, conduct an equipment monitoring program as set forth below:
- a. Each pump shall be checked by visual inspection each calendar week for indications of leaks, that is, liquids dripping from the pump seal. If there are indications of liquids dripping from the pump seal, the pump shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected.
 - b. Any pump, valve, pressure relief valve, sampling connection, open-ended valve and flange or connector containing a fluid which is at least 10 percent VOM by weight which appears to be leaking on the basis of sight, smell or sound shall be repaired as soon

as practicable, but no later than 15 calendar days after the leak is detected.

- c. A weather proof, readily visible tag, in bright colors such as red or yellow, bearing an identification number and the date on which the leak was detected shall be attached to leaking equipment. The tag may be removed upon repair, that is, when the equipment is adjusted or otherwise altered to allow operation without leaking.
 - d. When a leak is detected, the owner or operator shall record the date of detection and repair and the record shall be retained at the source for at least two years from the date of each detection or each repair attempt. The record shall be made available to any person upon verbal or written request during business hours.
8. Pursuant to 35 Ill. Adm. Code 218.630:
- a. No person shall clean paint or ink manufacturing equipment with organic solvent unless the equipment being cleaned is completely covered or enclosed except for an opening no larger than necessary to allow safe clearance for proper operation of the cleaning equipment, considering the method and materials being used.
 - b. No person shall store organic wash solvent in other than closed containers, unless closed containers are demonstrated to be a safety hazard, or dispose of organic wash solvent in a manner such that more than 20 percent by weight is allowed to evaporate into the atmosphere.
9. Pursuant to 35 Ill. Adm. Code 218.637:
- a. Upon request by the Illinois EPA, the owner or operator of an emission source which claims to be exempt from the requirements of this Subpart shall submit records to the Illinois EPA within 30 calendar days from the date of the request which document that the emission source is in fact exempt from this Subpart. These records shall include (but are not limited to) the percent water (by weight) in the paint or ink being produced and the quantity of Magie oil, glycol and other solvents in the ink being produced.
10. Emissions and operation of all equipment shall not exceed the following limit:

VOM Emissions	
<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
4.15	24.9

The following equation shall be used to calculate total VOM emissions from the facility:

$$E = [(8,357 * X) + (1,761 * Y) + Z]/2,000$$

Where:

E = Total VOM emissions from the facility (tons)

X = Millions of gallons of oil-based paints produced.

Y = Millions of gallons of latex paints produced.

Z = Pounds of uncontrolled clean-up solvents used.

The above limit are based on the following: 1) an overall control efficiency of 55% for the Roto Concentrator/New Oxidizer based on 2003 stack test results of the old oxidizer using oil-based paints, 2) VOM content of less than 4.4% for latex paints, 3) average vapor pressure for the VOC components of latex paints of approximately 0.1 psi and 4) approximately 2/3 of latex paint VOM emissions are controlled by the Roto Concentrator/New Oxidizer. Compliance with annual limits shall be determined from a running total of 12 months of data.

11. Within 120 days of initial start-up the volatile organic material (VOM) emissions from the new thermal oxidizer shall be measured during conditions, which are representative of maximum operations during production of oil-based paints.
12. The test shall be designed to measure both the destruction efficiency across the thermal oxidizer and the overall control efficiency provided by the combination of the capture system and afterburner.
13. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A, and 40 CRF 61, Appendix B, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Volatile Organic Material	USEPA Method 25, 25A if outlet VOM cont. < 50 ppmv as C Non CH ₄

14. At least 30 days prior to the actual date of testing, a written test plan shall be submitted to the Compliance Section of the Division of Air Pollution Control for review. This plan shall describe the specific procedures for testing, including as a minimum:
 - a. The person(s) who will be performing sampling and analysis and their experience with similar tests.
 - b. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission unit and any control equipment will be determined.

- c. The specific determinations of emissions and operation, which are intended to be made, including sampling and monitoring locations.
 - d. The test method(s), which will be used, with the specific analysis method, if the method can be used with different analysis methods. The specific sampling, analytical and quality control procedures, which will be used, with an identification of the standard methods upon which they are based.
 - e. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
 - f. Any proposed use of an alternative test method, with detailed justification.
 - g. The format and content of the Source Test Report.
15. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification for the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time testing shall be submitted a minimum of five (5) working days prior to the actual date of the tests. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe the testing.
16. Copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 30 days after the test results are compiled and finalized.
17. The Final Report shall include as a minimum:
- a. A summary of results.
 - b. General information.
 - c. Description of test method(s) including description of sampling points, sampling train, analysis equipment, and test schedule.
 - d. Detailed description of test conditions, including:
 - i. Process information, i.e., mode(s) of operation, process rate, e.g. fuel or raw material consumption;
 - ii. Control equipment information, i.e., equipment condition and operating parameters during testing; and
 - iii. A discussion of any preparatory actions taken, i.e., inspections, maintenance and repair.

- e. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
 - f. An explanation of any discrepancies among individual tests or anomalous data.
 - g. The results of all quality control evaluation, including a copy of all quality control data.
 - h. The operating parameters of the thermal oxidizer during testing.
18. Satisfactory completion of these tests so as to demonstrate compliance with applicable emission standards is a prerequisite to issuance of an operating permit, pursuant to 35 Ill. Adm. Code 201.160(a), (b) and (c).
19. The oxidizer shall be equipped with a continuous monitoring device which is installed, calibrated, maintained, and operated according to vendor's specifications at all times that the afterburner is in use. This device shall monitor the oxidizer combustion chamber temperature.
- 20a. The Permittee shall collect and record the following information each day:
- i. Oxidizer combustion chamber monitoring data.
 - ii. A log of operating time for the capture system, oxidizer, monitoring device, and the associated emission unit(s).
 - iii. A maintenance log for the capture system, oxidizer, and monitoring device detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- b. Records addressing use of good operating practices of the thermal oxidizer including:
- i. Records of periodic inspection of the thermal oxidizer along with the date of inspection, individual performing the inspection and nature of inspection; and
 - ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired and nature of repair.
- c. The Permittee shall maintain monthly and annual records of the following:
- i. Oil-based paints produced (gallons/month and gallons/year).
 - ii. Each clean-up solvent and single HAP used in excess of 0.5 tons/month for the entire plant (tons/month and tons/year).
 - iii. Latex paint produced (gallons/month and gallons/year).
 - iv. VOM and HAP emission calculations (tons/month and tons/year).

- d. All records and logs required by Condition 20 of this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
21. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
22. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

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

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

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

If you have any questions on this, please call Randy Solomon at 217/782-2113.

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

DES:RBS:psj

cc: Region 1