

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - RENEWAL

PERMITTEE

Reichhold Chemicals, Inc.  
Attn: Robert Storm  
7440 West DuPont Road  
Morris, Illinois 60450

<u>Application No.:</u> 73010338	<u>I.D. No.:</u> 063813AAF
<u>Applicant's Designation:</u> EXPANSION	<u>Date Received:</u> April 4, 2000
<u>Subject:</u> Copolymer Emulsion Plant	
<u>Date Issued:</u>	<u>Expiration Date:</u>
<u>Location:</u> 7440 West DuPont Road, Morris	

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of ethylene and vinyl acetate loading stations, a liquid ethylene storage tank vented to an ethylene gas storage tank, a reactor and a defoaming tank controlled by air-assisted flare, two vinyl acetate feed and storage tanks, sixteen blend or product storage tanks, three product recycle tanks, reactor #2, defoamer vessel #2 with flare #2, finished product storage tanks (17-20), and a monomer batch tank #2 pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special conditions:

- 1a. This federally enforceable state operating permit is issued to limit the emission of air pollutants from the source to less than major source thresholds (i.e., volatile organic material (VOM) to less than 100 tons per year, individual hazardous air pollutants (HAP) to less than 10 tons per year, and a combination of such HAPs to below 25 tons per year). As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of the source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. The Permittee shall maintain the flare systems in good working condition and shall not operate the copolymer emulsion facility in the event of malfunction or breakdown of the flare system. However, any batch in progress may be completed if the flare is not operating.

- b. Emissions of volatile organic material (VOM) from reactor line #1 shall not exceed 10.0 lb/batch and 20.0 tons/year. This limit was calculated from 500 lb/batch uncontrolled emissions, 4000 batches per year and 98% control by the flare. The 500 lb/batch was derived from extensive material balance information submitted in the application.
  - c. Operation shall not exceed 4000 batches per year.
  - d. The flare #1 shall be operated to reduce VOM emissions by 98%.
3. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
4. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the proceeding 11 months.
5. This permit is issued based on negligible emissions of VOM from ethylene and product storage tanks. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year. The ethylene is stored under pressure and the product is a water-soluble solution with a vapor pressure under 0.1 psia.
6. This permit is issued based on negligible emissions of VOM from the premix tank. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.01 ton/year. Vapor pressure of the material stored shall not exceed 0.01 psia at storage temperature.
- 7a. Emissions of volatile organic material (VOM) from reactor line #2 shall not exceed 12.2 lb/batch and 22.3 tons/year. This limit was calculated from 610 lb/batch of uncontrolled emissions, 98% control by the flare and 3,650 batches per year. This does not include emissions from the vinyl acetate (VA) batch tank.
  - b. Emissions of VA (a VOM and a HAP) from the monomer batch tank #2 shall not exceed 0.15 ton/mo and 1.26 tons/year calculated using AP-42 emission factors.
8. Emissions of VA from the storage tank shall not exceed 0.2 tons/mo and 1.5 tons/year. Throughput shall not exceed 13,000,000 gallons per year. The tank shall be equipped with a vapor balance system

for load-in. Emissions from the ethylene storage system will remain negligible.

9. Emissions of VOM from the filtering and storage of product are negligible. For this purpose, emissions from each process (filtering, storage) shall not exceed 0.1 lb/hr and 0.44 ton/yr. The filter emissions are negligible due to it being an enclosed process and the product is stored as a water emulsion with a low vapor pressure.
10. The flare #2 shall be operated to reduce VOM and HAP emissions by 98% by operating in compliance with 40 CFR 60.18.
- 11a. The Permittee shall maintain records of the following items, and such other items as may be appropriate to allow the Illinois EPA to review compliance with the limits in this permit.
  - i. Vinyl acetate throughput through the storage tank and the batch tank (gal/mo).
  - ii. Ethylene usage (lb/mo).
  - iii. Monitor for presence of flare pilot flame (Can be by exception).
  - iv. Product manufactured (lb/mo).
  - v. Number of batches per month.
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA 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.
12. Within 90 days of a written request from the Illinois EPA, the Permittee shall test the uncontrolled emissions of VOM from the reactor, the heat content (Btu/lb) of the gas to the flare, or any other requirements necessary to demonstrate compliance with the requirements of 40 CFR 60.18.
13. Within 90 days of a written request for the Illinois EPA, the uncontrolled emissions of VOM from the processing of three batches of copolymer emulsion shall be measured by an approved testing service, during conditions which are representative of the maximum emission rate. The Illinois EPA will provide additional time for performance of this testing upon request from the Permittee which

shows that it is not feasible to perform representative testing within 90 days.

14. Emissions of nitrogen oxides from the flare shall not exceed 2.0 ton/yr, calculated from a 2.0 mmBtu/hr pilot flame, 2,000,000 lb/yr of ethylene burned and the AP-42 emission factor of 0.068 lb/mmBtu in Table 13.5-1 dated 1/95.
15. 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.
16. 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  
Eisenhower Tower  
1701 South First Avenue  
Maywood, Illinois 60153

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

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

DES:JPB:jar

cc: Illinois EPA, FOS Region 1  
Illinois EPA, Compliance Section  
USEPA

Attachment A - Emissions Summary

1. Emissions of volatile organic material (VOM) from reactor line #1 shall not exceed 10.0 lb/batch and 20.0 tons/year. This limit was calculated from 500 lb/batch uncontrolled emissions, 4000 batches per year and 98% control by the flare. The 500 lb/batch was derived from extensive material balance information submitted in the application.
2. Emissions of volatile organic material (VOM) from reactor line #2 shall not exceed 12.2 lb/batch and 22.3 tons/year. This limit was calculated from 610 lb/batch of uncontrolled emissions, 98% control by the flare and 3,650 batches per year. This does not include emissions from the vinyl acetate (VA) batch tank.
3. Emissions of VA (a VOM and a HAP) from the monomer batch tank #2 shall not exceed 0.15 ton/mo and 1.26 tons/year calculated using AP-42 emission factors.
4. Emissions of VA from the storage tank shall not exceed 0.2 tons/mo and 1.5 tons/year. Throughput shall not exceed 13,000,000 gallons per year. The tank shall be equipped with a vapor balance system for load-in. Emissions from the ethylene storage system will remain negligible.
5. Emissions of VOM from the filtering and storage of product are negligible. For this purpose, emissions from each process (filtering, storage) shall not exceed 0.1 lb/hr and 0.44 ton/yr. The filter emissions are negligible due to it being an enclosed process and the product is stored as a water emulsion with a low vapor pressure.
6. This permit is issued based on negligible emissions of VOM from ethylene and product storage tanks. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year. The ethylene is stored under pressure and the product is a water-soluble solution with a vapor pressure under 0.1 psia.
7. This permit is issued based on negligible emissions of VOM from the premix tank. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.01 ton/year. Vapor pressure of the material stored shall not exceed 0.01 psia at storage temperature.
8. Emissions of nitrogen oxides from the flare shall not exceed 2.0 ton/yr, calculated from a 2.0 mmBtu/hr pilot flame, 2,000,000 lb/yr of ethylene burned and the AP-42 emission factor of 0.068 lb/mmBtu in Table 13.5-1 dated 1/95.

JPB:jar