

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Hydrite Chemical Company
Attn: Mr. Mark Laehn
300 North Patrick Boulevard
Brookfield, Wisconsin 53045

Application No.: 04120011

I.D. No.: 197072AAH

Applicant's Designation:

Date Received: December 6, 2004

Subject: Chemical Blending

Date Issued:

Expiration Date:

Location: 2545 Bond Street, University Park

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of two blending tanks, two organic liquid container loading stations, one truck loading station, and 28 storage tanks pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emission of air pollutants from the source to less than major source thresholds (i.e., 25 tons/year for volatile organic materials (VOM), 10 tons/year of a single hazardous air pollutants (HAP) and 25 tons/year for total HAPs), as further described in Attachment A. As a result, the source is excluded from requirements to obtain a Clean Air Act Program (CAAPP) permit.
- 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. Emissions of organic material into the atmosphere shall not exceed 3.6 kg/hr (8 lbs/hr) during the loading of any organic material from the aggregate loading pipes of any loading area having throughput of greater than 151 cubic meters per day (40,000 gal/day) into any railroad tank car, tank truck or trailer unless such loading area is equipped with submerged loading pipes or an equivalent device (35 Ill. Adm. Code 218.122(a)).
- b. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device (35 Ill. Adm. Code 218.122(b)).
- c. If no odor nuisance exists the limitations of Conditions 2(a) and (b) shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F) (35 Ill. Adm. Code 218.122(c)).

3. Emissions and operation of the facility shall not exceed the following limits:

<u>Operations</u>	<u>Throughput</u>		<u>VOM Emissions</u>	
	<u>(Gallons/Mo)</u>	<u>(Gallons/Yr)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
2 Blending Tanks	62,000	620,000	0.15	1.50
Storage Tanks	900,000	9,000,000	0.73	7.34
Truck Loading	290,000	2,900,000	0.67	6.70
Container Filling	707,700	7,047,000	0.87	8.70
			Total:	24.24

Storage tank emissions are based on Tanks 4.09 using Hexane, all other emissions are based on the following equation from AP-42, Sect. 5.2:

$$\frac{\text{Transfers} * 12.46 * S * \text{Molecular Weight (Lb/Lb Mole)} * \text{Vapor Pressure (psi)}}{520}$$

Where S = 1 and transfers = 2 for blend tanks, S = 1 and transfers = 1 for truck loading, and S = 1.45 and transfers = 1 for container filling.

Emissions calculated using the above equation shall be doubled for the two blending tanks to account for liquid transfer and blending process. For container filling, limits are based on 90% of materials having vapor pressure less than 0.67 psi and 10% having vapor pressure less than 0.193 psi. Compliance with annual limits shall be determined from a running total of 12 months of data using the above equation.

4. At all times the Permittee shall also maintain and operate all equipment, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.
5. This permit is issued based on negligible emission of sulfuric acid from the entire plant. For this purpose emissions shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 tons/year.
6. Emissions from all natural gas combustion shall not exceed the following limits:

Total Firing Rate: 2.7 mmBtu/hour

<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
	<u>(Lb/mmBtu)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Nitrogen Oxides (NO _x)	0.098	0.12	1.2
Carbon Monoxide (CO)	0.083	0.10	1.0
Volatile Organic Materials (VOM)	0.0054	0.007	0.07

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

7. 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.
8. The blending tanks shall be operated in compliance with the provisions of Condition 2.
9. In the event that the operation of this emission unit results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
10. The Permittee shall maintain records of the following items:
 - a. For each storage or blending tank, each loading/unloading area and each container filling room:
 - i. The amount of each organic liquid transferred (gallons/month and gallons/year);
 - ii. Names and identification number of each organic liquid transferred;
 - iii. Material true vapor pressure (psi)¹ and molecular weight (lb/lb mole); and
 - iv. VOM and HAP emission calculations using the equation as specified in Condition 3 (tons/month and tons/year).
 - b. Separate emission records for each individual HAP with emission rate exceeding 0.1 tons/month.
 - c. Pursuant to 35 Ill. Adm. Code 218.129(f) the owner or operator of each storage vessel with a design capacity less than 40,000 gallons shall maintain readily accessible records of the

¹ For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

dimension of the storage vessel and an analysis of the capacity of the storage vessel.

11. 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. 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.
13. 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

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cc: Illinois EPA, FOS Region 1
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the chemical packaging plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. This is a throughput of 19.8 million gallons of liquid organic chemicals per year. The resulting maximum emissions are well below the levels, e.g., 25 tons/year for VOM, 10 tons per year for a single HAP, and 25 tons per year for totaled HAP, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

	Emissions (Tons/Year)					Sulfuric <u>Acid</u>
	<u>VOM</u>	<u>Single HAP</u>	<u>Combined HAPs</u>	<u>NO_x</u>	<u>CO</u>	
Storage Tanks	7.34					
2 Blending Tanks	1.50					
Truck Loading	6.70					
Container Loading	8.70					
Natural Gas	0.07			1.2	1	
Totals:	24.30	< 10	< 25	1.2	1	0.44

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