

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
RENEWAL

PERMITTEE

Cartex Corporation
Attn: Bob Boyer
410 Factory Road
Addison, Illinois 60101

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| <u>Application No.:</u> 77020013 | <u>I.D. No.:</u> 043005AAG |
| <u>Applicant's Designation:</u> | <u>Date Received:</u> November 8, 2005 |
| <u>Subject:</u> Polyurethane Foam Manufacturing Plant | |
| <u>Date Issued:</u> | <u>Expiration Date:</u> |
| <u>Location:</u> 410 Factory Road, Addison | |

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of two mold release coating spray booths controlled by filters, interior mold surface process, mold filling station, tire and vacuum foam crushers, conveyor line, infrared curing oven, chemical compounding process, 8 storage tanks, space heaters, and air makeup unit 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:
 - i. To limit the emissions of air pollutants from the source to less than major source thresholds (i.e., volatile organic material (VOM) and hazardous air pollutants (HAPs) from the source to less than major source thresholds, i.e., VOM to less than 100 tons per year, and HAPs to less than 10 tons per year of any single HAP and 25 tons per year of any combination of such HAP). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
 - ii. This permit is issued based upon the plant not being subject to the requirements of 35 Ill. Adm. Code Part 218 Subpart QQ (Miscellaneous Formulation Manufacturing Process), 35 Ill. Adm. Code Part 218 Subpart RR (Miscellaneous Organic Chemical Manufacturing Processes), and 35 Ill. Adm. Code Part 218 Subpart TT (Other Emission Units). This is consequence of the federally enforceable production and operating limitations, which restrict a potential to emit to less than 25 tons per year.
 - iii. To limit the emissions of volatile organic material from the source to less than 25 tons/year. As a result, the source is excluded from the requirements of 35 Ill. Adm. Code Part 205, Emission Reduction Market System. The maximum emissions of this 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. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 218 Subpart G: Use of Organic Material, shall apply only to photochemically reactive material.
- b. In the event that the operation of this source 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 nuisance.
- 3. Emissions of volatile organic material (VOM) and operation of the two spray booths shall not exceed the following limits:

| VOM Usage | | VOM Emissions | |
|---------------------|--------------------|---------------------|--------------------|
| <u>(Tons/Month)</u> | <u>(Tons/Year)</u> | <u>(Tons/Month)</u> | <u>(Tons/Year)</u> |
| 2.0 | 20.0 | 2.0 | 20.0 |

These limits define the potential emissions of VOM and are based on individual coating usages, maximum VOM content, and limits as requested by the company. VOM usage shall be calculated according to the equation in Condition 12(c) (iii).

- 4. Emissions of volatile organic material, VOM, and operation of the interior mold surface process shall not exceed the following limits:

| <u>Material</u> | Usage | | VOM Content <u>(Lb/Gal)</u> | VOM Emissions | |
|-----------------|-----------------|-----------------|--------------------------------|------------------|------------------|
| | <u>(Gal/Mo)</u> | <u>(Gal/Yr)</u> | | <u>(Tons/Mo)</u> | <u>(Tons/Yr)</u> |
| Paste Wax | 70 | 432 | 4.54 | 0.16 | 0.98 |

These limits define the potential emissions of VOM and are based on maximum material usages, maximum VOM content, and limits as requested by the company.

- 5. Emissions of volatile organic material, VOM, and operation of the mold filling station shall not exceed the following limits:

| <u>Material</u> | Usage | |
|----------------------|---------------------|--------------------|
| | <u>(Tons/Month)</u> | <u>(Tons/Year)</u> |
| Polypropylene Glycol | 460 | 5,520 |
| Isocyanates | 167 | 1,968 |

| VOM Emissions | |
|--------------------|--------------------|
| <u>(Lbs/Month)</u> | <u>(Tons/Year)</u> |
| 5.0 | 0.03 |

These limits define the potential emissions of VOM and are based on maximum material usages and emissions information provided by the company.

6. Emissions of volatile organic material, VOM, and operation of the tire and vacuum foam crushers and conveyor line shall not exceed the following limits:

| <u>Equipment</u> | <u>Polyurethane Foam Process Weight Rate (Tons/Mo)</u> | <u>(Tons/Yr)</u> | <u>Emission Factor (Lb VOM/Ton Yr)</u> | <u>VOM Emissions (Lbs/Mo)</u> | <u>(Tons/Yr)</u> |
|------------------|--|------------------|--|-----------------------------------|------------------|
| Crushers | 624 | 7,488 | 0.116 | 72.4 | 0.43 |
| Conveyor Line | 624 | 7,488 | 0.56 | 349.5 | 2.1 |
| | | | Total | 421.9 | 2.53 |

These limits define the potential emissions of VOM and are based on maximum material usages, maximum VOM content, and emission factors as established by the company.

- 7a. Fuel combustion emissions and operation of the curing oven, air makeup units, and space heater shall not exceed the following limits:

| <u>Material</u> | <u>(mmscf/Mo)</u> | <u>(mmscf/Yr)</u> | <u>Pollutant</u> | <u>Emission Factor (Lb/mmscf)</u> | <u>Emissions (Ton/Mo)</u> | <u>(Ton/Yr)</u> |
|-----------------|-------------------|-------------------|------------------|---|-------------------------------|-----------------|
| Natural Gas | 11 | 110 | NO _x | 100 | 0.6 | 5.5 |
| | | | CO | 84 | 0.5 | 4.6 |
| | | | VOM | 5.5 | 0.03 | 0.3 |
| | | | PM | 7.6 | 0.05 | 0.5 |

These limits define the potential emissions of NO_x, CO, PM, and VOM and are based on maximum fuel usage and standard emission factors.

- b. Natural gas shall be the only fuel used in the fuel combustion emission sources. Use of any other fuel other than natural gas requires a permit revision.
- 8a. This permit is issued based on negligible emissions of VOM from the 8 storage tanks. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
- b. This permit is issued based on negligible emissions of VOM from the chemical compounding process. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.

- c. This permit is issued based on negligible emissions of particulate matter from the two spray booths. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.
- d. This permit is issued based on negligible emissions of VOM from the infrared cure oven. For this purpose, emissions shall not exceed nominal emission rates of 0.3 lb/hour and 0.12 tons/year.
- 9. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons per year of any single HAP and 25 tons per year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit and Section 112(g) of the Clean Air Act.
- 10. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 11. This permit is issued based on the 8 storage tanks storing materials with a vapor pressure less than 1.0 mmHg at 60°F.
- 12a. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR

63.10(b) (3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

b. Pursuant to 35 Ill. Adm. Code 218.129(f), each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 IAC Parts 218 or 219 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel.

c. The Permittee shall maintain monthly records of the following items:

- i. Amount of each mold release coating used in the spray booths (gallons or lbs/month and gallon or tons/year);
- ii. VOM content of coating used in the spray booths used (lb VOM/gallon or percent weight);
- iii. Calculations of VOM usage in the two spray booths. The following equations shall be used to calculate VOM usage:

$$Te = \sum_i^n AiBi$$

Where:

Te = VOM usage in units of lbs/month;

n = Number of different mold release coatings used;

i = Subscript denoting an individual mold release coating;

Ai = Weight of VOM per volume of each mold release coating used each month in units of lbs VOM/gallon or weight percent of VOM of each solvent used each month (% weight); and

Bi = Amount of each mold release coatings used each month in units of gallons/month or lb/month;

- iv. Amount of paste wax used in the interior mold process (gallons/month and gallons/year);
- v. VOM content of the paste wax (lbs/gallon);
- vi. Amount of polypropylene and isocyanate used in the mold filling station (lbs/month and tons/year);
- vii. Process rate of the tire and vacuum crusher and the conveyor line (tons/month and tons/year);
- viii. Plantwide usage of natural gas (mmscf/month and mmscf/year); and

- ix. Monthly and annual CO, NO_x, PM, VOM, and HAP emissions, with supporting calculations (tons/month and tons/year).
- 13. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five 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.
- 14. 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.
- 12. Two (2) copies of required reports and notifications 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 George Kennedy at 217/782-2113.

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

DES:GMK:psj

cc: Illinois EPA, FOS Region 1
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the polyurethane foam manufacturing facility 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. The resulting maximum emissions are below the levels, e.g., 100 tons per year of VOM 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.

| <u>Equipment/Operation</u> | E M I S S I O N S (Tons/Year) | | | | | HAPs | |
|----------------------------|-------------------------------|-----------------------|------------|--------------|----------------|-----------------|--|
| | <u>PM</u> | <u>NO_x</u> | <u>CO</u> | <u>VOM</u> | <u>Single</u> | <u>Combined</u> | |
| | 2 Spray Booths | 0.44 | | | 20.00 | | |
| Interior Mold Surface | | | | 0.98 | | | |
| Mold Filling Station | | | | 0.03 | | | |
| Tire and Vacuum Foam | | | | | | | |
| Crushers | | | | 0.43 | | | |
| Conveyor line | | | | 2.10 | | | |
| Combustion | 0.50 | 5.5 | 4.6 | 0.30 | | | |
| Infrared Curing Oven | | | | 0.12 | | | |
| 8 Storage Tanks | | | | 0.44 | | | |
| Chemical Compounding | | | | 0.44 | | | |
| Total | <u>0.94</u> | <u>5.5</u> | <u>4.6</u> | <u>24.84</u> | <u>< 10</u> | <u>< 25</u> | |

GMK:psj