

Facility ID: 0857013042 Issuance type: Final State Permit To Operate

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In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

\*\*\*THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION\*\*\*

Facility ID: 0857013042 Emissions Unit ID: L001 Issuance type: Final State Permit To Operate

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**Part II - Special Terms and Conditions**

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
  - (a) None.

**A. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Corpane open top vapor degreaser with idling-mode cover, freeboard refrigeration device, superheated vapor system and freeboard ratio	OAC rule 3745-31-05 See F.2.	0.51 ton/month, and 6.12 tons/year organic compounds
	OAC rule 3745-21-09(O)(3) See F.2.	*See Additional Term and Condition 2.a.
	40 CFR Part 63, Subpart T See F.2.	See Additional Terms and Conditions 2.b., 2.c., and 2.d.

**2. Additional Terms and Conditions**

- (a) Cover and Safety Switch Requirements

The open top vapor degreaser shall employ a cover and safety switches as described below:

- i. A cover that can be opened and closed easily without disturbing the vapor zone.
- ii. A condenser flow switch and thermostat or any other device which shuts off the sump heat if the condenser coolant is either not circulating or too warm.
- iii. A spray safety switch which shuts off the spray pump if the vapor level drops below any fixed spray nozzle.
- iv. A vapor level control thermostat or any other device which shuts off the sump heat when the vapor level rises too high.
- v. A water flow switch, water pressure switch, or any other device which shuts off the sump heat if the water in a water-cooled condenser has no flow or no pressure, whichever is being monitored. The permittee shall ensure that the chilled air blanket temperature (in degrees Fahrenheit), measured at the center of the air blanket, is no greater than 30 percent of the solvent's boiling point. The permittee shall comply with the following requirements:
  - i. Ensure that the temperature of the solvent vapor at the center of the superheated vapor zone is at least 10 degrees Fahrenheit above the solvent's boiling point.
  - ii. Ensure that the manufacturer's specifications for determining the minimum proper dwell time within the superheated vapor system is followed.
  - iii. Ensure that parts remain within the superheated vapor for at least the minimum proper dwell time.

\*The limit based on this rule is less stringent than the limit established pursuant to OAC rule 3745-31-05 above.

**B. Operational Restrictions**

1. A freeboard with a freeboard ratio of 1.0 shall be maintained, and if the open top vapor degreaser opening is greater than 10 square feet, the cover must be powered or equipped with mechanical features whereby it can be readily closed when the degreaser is not in use.

2. The permittee shall operate and maintain a refrigerated chiller for the open top vapor degreaser.
3. The open top vapor degreaser shall be operated and maintained in accordance with the following practices to minimize solvent evaporation from the unit:
  - a. Keep the cover closed at all times except when processing work loads through the degreaser.
  - b. Minimize solvent carry-out by:
    - (i) Racking parts so that solvent drains freely and is not trapped.
    - (ii) Moving parts in and out of the degreaser at less than 11 feet per minute.
    - (iii) Holding the parts in the vapor zone at least 30 seconds or until condensation ceases, whichever is longer.
    - (iv) Tipping out any pools of solvent on the cleaned parts before removal from the vapor zone.
    - (v) Allowing parts to dry within the degreaser for at least 15 seconds or until visually dry, whichever is longer.
  - c. Clean only materials that are neither porous nor absorbent.
  - d. Occupy no more than one-half of the degreaser's open-top area with a workload.
  - e. Always spray within the vapor level.
  - f. Repair solvent leaks immediately, or shut down the degreaser.
  - g. Store waste solvent only in covered containers.
  - h. Operate the cleaner such that water cannot be visually detected in solvent exiting the water separator.
  - i. Use no ventilation fans near the degreaser opening.
  - j. When the cover is open, do not expose the open top vapor degreaser to drafts greater than 131 feet per minute, as measured between 3 and 6 feet upwind and at the same elevation as the tank lip.
  - k. If a lip exhaust is used on the open top vapor degreaser, do not use a ventilation rate that exceeds 65 cubic feet per minute per square foot of degreaser open area, unless a higher rate is necessary to meet Occupational Safety and Health Administration requirements.
  - l. Provide a permanent, conspicuous label, summarizing the operating procedures.
4. General Design Requirements

The permittee shall ensure that the solvent cleaning machine conforms to the following design requirements:

  - a. Use of an idling and downtime mode cover that shall be in place during the idling mode, and during the downtime mode unless either the solvent has been removed from the machine or maintenance or monitoring is being performed that requires the cover(s) to not be in place. The cover must be able to be readily opened or closed, must completely cover the cleaning machine openings when in place, and must be free of cracks, holes and other defects.
  - b. The solvent cleaning machine shall have a freeboard ratio of 1.0.
  - c. The solvent cleaning machine shall have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts.
  - d. The solvent cleaning machine shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.
    - e. The solvent cleaning machine shall be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.
    - f. The solvent cleaning machine shall have a primary condenser.
5. The permittee shall meet all of the following required work and operational practices:
  - a. Control air disturbances across the solvent cleaning machine opening(s) by incorporating the following control equipment or technique: cover(s) for the solvent cleaning machine shall be in place during the idling mode and during the downtime mode unless either the solvent has been removed from the machine or maintenance or monitoring is being performed that requires the cover(s) to not be in place.
    - b. The parts baskets or the parts being cleaned in solvent cleaning machine shall not occupy more than 50 percent of the solvent/air interface area unless the parts baskets or parts are introduced at a speed of 0.9 meter per minute (3 feet per minute) or less.
    - c. Any spraying operations shall be done within the vapor zone or within a section of the solvent cleaning machine that is not directly exposed to the ambient air (i.e., a baffled or enclosed area of the solvent cleaning machine).
  - d. Parts shall be oriented so that the solvent drains from them freely. Parts having cavities or blind holes must be tipped or rotated before being removed from the solvent cleaning machine unless an equally effective approach has been approved by the Director (appropriate field Office or local air agency).

- e. Parts baskets or parts shall not be removed from the solvent cleaning machine until dripping has stopped.
- f. During startup of the solvent cleaning machine, the primary condensers shall be turned on before the sump heater.
- g. During shutdown of the solvent cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

h. When solvent is added or drained from the solvent cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

- i. The solvent cleaning machine and its associated controls shall be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to the satisfaction of the Director (appropriate field Office or local air agency) to achieve the same or better results as those recommended by the manufacturer.
- j. The permittee shall complete and pass the applicable sections of the test of solvent cleaning operating procedures in 40 CFR Part 63, Appendix B if requested during an inspection by the Director (appropriate field Office or local air agency).
- k. Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that would allow pressure relief, but must not allow liquid solvent to drain from the container.
- l. Sponges, fabric, wood, and paper products shall not be cleaned.

**C. Monitoring and/or Record Keeping Requirements**

- 1. The permittee shall conduct monitoring and record the results on a weekly basis for the freeboard refrigeration device by using a thermometer or thermocouple to measure the temperature at the center of the air blanket during the idling mode.
- 2. The permittee shall conduct monitoring and record the results on a weekly basis for the superheated vapor system by using a thermometer or thermocouple to measure the temperature at the center of the superheated solvent vapor zone while the solvent cleaning machine is in the idling mode.
- 3. The permittee shall monitor the hoist speed as described below:
  - a. The permittee shall determine the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute).
  - b. The permittee shall conduct monthly monitoring of the hoist speed. If after the first year, no exceedances of the hoist speed are measured, the permittee may begin monitoring the hoist speed quarterly.
  - c. If an exceedance of the hoist speed occurs during quarterly monitoring, the permittee shall return to a monthly monitoring frequency until another year of compliance without an exceedance is demonstrated.
  - d. If the permittee can demonstrate to the satisfaction of the Director (appropriate District Office or local air agency) in the initial compliance report that the hoist speed cannot exceed a speed of 3.4 meters per minute (11 feet per minute), the required monitoring frequency is quarterly, including during the first year of compliance.
- 4. The permittee shall maintain the following records in written or electronic form for the lifetime of the solvent cleaning machine:
  - a. Owner's manuals, or if not available, written maintenance and operating procedures for the solvent cleaning machine and control equipment.
  - b. The date of installation for the solvent cleaning machine and all of its control devices. If the exact date for the installation is not known, a letter certifying that the cleaning machine and its control devices were installed prior to, or on, November 29, 1993, or after November 29, 1993, may be substituted.
  - c. Records of the halogenated HAP solvent content for the solvent used in the solvent cleaning machine.
- 5. The permittee shall maintain the following records in written or electronic form for a period of five years for the solvent cleaning machine:
  - a. The results of control device monitoring required in this section of the permit.
  - b. Information on the actions taken to comply with 40 CFR 63.463 (e) and (f), including records of written or verbal orders for replacement parts, a description of the repair made, and additional monitoring conducted to demonstrate that monitored parameters have returned to acceptable levels.
  - c. Estimates of annual trichloroethylene consumption for the solvent cleaning machine.
- 6. The permittee shall maintain monthly records of the following information:
  - a. The identification of the degreasing solvent employed.
  - b. The number of gallons of degreasing solvent used.
  - c. The number of gallons of degreasing solvent disposed of as waste.
  - d. All control equipment maintenance.

**D. Reporting Requirements**

1. The permittee shall submit an annual report by February 1 of each year for the preceding year. Each annual report shall contain the following:
  - a. A signed statement from the facility owner or their designee stating that, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required pursuant to 40 CFR 60.463 (d) (10)."
  - b. An estimate of solvent consumption during the reporting period.
2. The permittee shall submit an exceedance report on a semiannual basis.

If the manufacturer's specification for determining the minimum dwell time within the superheated vapor system was not followed and/or parts did not remain within the vapor zone for at least the minimum proper dwell time and/or if the temperature of the solvent vapor at the center of the superheated vapor zone was less than 10 degrees Fahrenheit above the solvent's boiling point, and correction was not made within 15 days of detection; or

if the temperature of the chilled air blanket, measured at the center of the air blanket, was greater than 30% of the solvent's boiling point, and no correction was made within 15 days of detection; or

if the cover did not completely cover the cleaning machine openings when in place whenever parts were not in the solvent cleaning machine and/or if the cover had cracks, holes or other defects and no correction was made in 15 days of detection,

the permittee shall begin to submit a quarterly report until such time that the permittee requests and receives approval of a less frequent reporting frequency from the Director (appropriate District Office or local air agency). The permittee may receive approval of less frequent reporting if the following conditions are met: (1) The emissions unit has demonstrated a full year of compliance without an exceedance, (2) the permittee continues to comply with all relevant recordkeeping and monitoring requirements specified in 40 CFR 63.1, General Provisions, and (3) the Director (appropriate District Office or local air agency) does not object to a reduced frequency of reporting for the affected emissions unit as provided in paragraph (e) (3) (iii) of subpart A, 40 CFR 63.1, General Provisions. Each exceedance report shall be delivered or post marked by the 30th day following the reporting period.

Each exceedance report shall contain the following:

a. The reason and a description of the exceedance and action(s) taken to comply with 40 CFR 63.463 (e) and (f) including written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to acceptable levels.

b. If no exceedance has occurred, a statement to that effect shall be submitted.

#### E. Testing Requirements

1. The permittee shall determine the facility's potential to emit (PTE) from all solvent cleaning operations. A facility's total PTE is the sum of the HAP emissions from all solvent cleaning operations plus all HAP emissions from other emissions units from within the facility. The potential to emit shall be determined in accordance with the following procedures:
  - a. Determine the potential to emit for each individual solvent cleaning machine using the following equation:
 
$$PTE_i = H_i \times W_i \times SAI_i$$

Where:

$PTE_i$  = the potential to emit for the solvent cleaning machine  $i$  (kilograms solvent per year).

$H_i$  = hours of operation for solvent cleaning machine  $i$  (hours per year).

= 8760 hours per year, unless otherwise restricted by a federally enforceable requirement.

$W_i$  = the working mode uncontrolled emission rate (kilograms per square meter per hour).

= 1.95 kilograms per square meter per hour for batch vapor and cold cleaning machines.

= 1.12 kilograms per square meter per hour for in-line cleaning machines.

$SAI_i$  = solvent/air interface area of solvent cleaning machine  $i$  (square meters). Section 63.461 defines the solvent/air interface area for those machines that have a solvent /air interface. Cleaning machines that do not have a solvent area interface shall calculate a solvent/air interface area using the procedure in paragraph (b) below.

b. Cleaning machines that do not have a solvent/air interface shall calculate a solvent/air interface area using the following equation:

$$SAI = 2.2 * (Vol)^{0.6}$$

Where:

$SAI$  = the solvent/air interface area (square meters).

$Vol$  = the cleaning capacity of the solvent cleaning machine (cubic meters).
  - c. Sum the  $PTE_i$  for all solvent cleaning operations to obtain the total potential to emit for solvent cleaning operations at the facility.
2. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation -  
0.51 ton/month organic compounds

Applicable Compliance Method -

To determine the actual organic compound emission rate, the following equation shall be used:

$$E = (L_s - L_w) \times D / 2000$$

E = organic compound emission rate (ton/month)

L<sub>s</sub> = liquid volume of trichloroethylene solvent employed each month (gallons)

L<sub>w</sub> = liquid volume of trichloroethylene solvent sent off-site as waste (gallons)

D = density of trichloroethylene solvent (pounds/gallon)

Emission Limitation -  
6.12 TPY volatile organic compounds

Applicable Compliance Method -

Compliance shall be the sum of the monthly VOC emission rates for the calendar year.

F. **Miscellaneous Requirements**

1. The permittee is hereby notified that this permit and all agency records concerning the operation of this permitted emissions unit are subject to public disclosure in accordance with OAC rule 3745-49-03.
2. The following terms and conditions shall supersede all the air pollution control requirements for this emissions unit contained in permit to install 08-3628, as issued on February 5, 1997: A, B, C, and D.