

Facility ID: 0247040393 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: 0247040393 Emissions Unit ID: L003 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>
batch vapor degreaser using trichloroethylene	OAC rule 3745-31-05(A)(3) (PTI #02-18148)	Organic compound emissions shall not exceed 0.96 pound per hour.  The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07(B) and 40 CFR Part 63, Subpart T.
	OAC rule 3745-21-09(O)	In accordance with paragraph (O)(6)(b) of OAC rule 3745-21-09, the requirements of OAC rule 3745-21-09 (O)(3) shall not apply to this emissions unit. See A.I.2.b below.
	40 CFR Part 63, Subpart T OAC rule 3745-35-07(B)	See sections A.2.a, A.2.b, B.1, B.2, and B.3 below. Organic compound emissions shall not exceed 4.20 tons per year as a rolling, 12-month summation.
		See sections A.2.c and A.2.d below.

**2. Additional Terms and Conditions**

- (a) The permittee shall ensure that the solvent cleaning machine conforms to the following design requirements:
  - i. Use an idling and downtime mode cover and ensure that the cover opens only for part entrance and removal, that it may be readily opened or closed, that it completely covers the solvent cleaning machine openings when in place, and that it is free of cracks, holes, and other defects; or, use a reduced room draft that ensures that the flow or movement across the top of the freeboard area of the solvent cleaning machine or within the solvent cleaning machine enclosure does not exceed 15.2 meters per minute (50 feet per minute) at any time measured using the procedure described in the "Monitoring and/or Record Keeping Requirements" section of this permit. (The permittee shall establish and maintain the operating conditions under which the wind speed was demonstrated to be 15.2 meters per minute (50 feet per minute) or less as described in the "Monitoring and/or Record Keeping Requirements" section of this permit.)
  - ii. The solvent cleaning machine shall have a freeboard ratio of 1.0 or greater.
  - iii. The solvent cleaning machine shall have an automated parts handling system capable of moving parts or parts basket 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.
  - iv. The solvent cleaning machine shall be equipped with a vapor level control device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.
  - v. 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.
  - vi. The solvent cleaning machine shall have a primary condenser.  
This rule citation reflects the new exemption added to OAC rule 3745-21-09(O) for solvent metal cleaning operations subject to federal MACT standards under 40 CFR Part 63, Subpart T, provided the

requirements of Subpart T are specified in the terms and conditions. The revised rule containing the exemption was adopted by the Director of Ohio EPA in May 1999. US EPA has agreed to consider the rule citation as federally enforceable during the time from the effective date of this permit to the effective date of US EPA approval of the rule citation as a revision to the Ohio SIP for ozone. Compliance with the annual emission limitation for organic compounds shall be based upon a rolling, 12-month summation of the monthly emissions. The organic material evaporation rate shall be calculated monthly using the following equation:

$$\text{Organic Material Evaporated} = (\text{Summation} [(\text{Gallons of solvent evaporated} \times \text{organic content density in solvent (lbs per gallon)})] \text{ for all calendar months}) \times 1 \text{ ton per 2000 pounds}$$

The annual limit of organic compounds is sufficient to effectively limit HAPs to below Title V thresholds.

**B. Operational Restrictions**

1. The permittee shall meet all of the following required work and operational practices:
  - a. air disturbances across the solvent cleaning machine opening(s) shall be controlled by ensuring that the cover(s) to 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 basket or the parts being cleaned in the 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 meters 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 orientated 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 Ohio EPA NEDO);
  - 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 Ohio EPA NEDO 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, iff requested during an inspection by the Ohio EPA NEDO;
  - 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 would not allow liquid solvent to drain from the container; and
  - l. sponges, fabric, wood, and paper products shall not be cleaned in this emissions unit.
2. The permittee shall comply with the following requirements:
  - i. Ensure that the flow or movement of air within the solvent cleaning machine enclosure does not exceed 15.2 meters per minute (50 feet per minute) at any time as measured using the procedures outlined in section C of these terms and conditions.
  - ii. Establish and maintain the operating conditions under which the wind speed was demonstrated to be 15.2 meters per minute (50 feet per minute) or less.
  - iii. 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.
  - iv. Ensure that the manufacturer's specifications for determining the minimum proper dwell time within the superheated vapor system is followed.
  - v. Ensure that parts remain within the superheated vapor for at least the minimum proper dwell time.
3. The permittee shall maintain a freeboard with a freeboard ratio equal to 1.0 or greater.

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

1. 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.

If the permittee can demonstrate to the satisfaction of the Ohio EPA Northeast District Office 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.

2. 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.
    - d. Records of the tests required as specified in section C.1.
  3. 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 the Operational Restrictions of this permit, including records of 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 accepted levels.
    - c. Estimates of annual trichloroethylene consumption for the solvent cleaning machine.
  4. 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 idling mode.
  5. If an enclosure (full or partial) is used to achieve a reduced room draft, the owner or operator shall conduct an initial monitoring test and, thereafter, monthly monitoring tests of the windspeed within the enclosure using the procedures below and a monthly visual inspection of the enclosure to determine if it is free of cracks, holes and other defects:
    - a. Determine the direction of the wind current in the enclosure by slowly rotating a velometer inside the entrance to the enclosure until maximum speed is located.
    - b. Record the maximum wind speed.
  6. If the permittee employs a working mode cover, the permittee shall conduct monitoring and record the results on a monthly basis for the working mode cover by conducting a visual inspection to determine if the cover is opening and closing properly, completely covers the cleaning machine openings when closed, and is free of cracks, holes, and other defects.
  7. The permittee shall record each month the following:
    - a. the amount of solvent added to the solvent cleaning machine, in gallons (if no solvent was added, the record should state such);
    - b. the number of hours that the solvent cleaning machine was in operation; and
    - c. the average hourly OC emission rate, in lbs/hr, calculated in accordance with the equation in section E.2.
  8. The permittee shall maintain monthly records of the following information:
    - a. the number of gallons of solvent loss to evaporation (solvent loss minus solvent recovered);
    - b. the organic content density in solvent evaporated (in pounds per gallon); and
    - c. the 12-month rolling summation of organic material evaporation calculated by adding the current month's organic material evaporation (using the equation in section A.2.c) to the organic material evaporation for the preceding eleven calendar months.
- 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 the owner's designee stating that "All operators or solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required to 40 CFR Part 63.643(d)(10)".
    - b. An estimate of solvent consumption during the reporting period.
    - c. The total OC emissions, in tons, calculated in accordance with the equation in section E.3.
  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, 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 Ohio EPA Northeast District Office. Each exceedance report shall be delivered or postmarked 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.
3. The permittee shall submit a wind speed exceedance report on a semiannual basis. If no operation conditions were established under which the wind speed was demonstrated to be 15.2 meters per minute (50 feet per minute) and/or if the flow of air across the top of the freeboard area of the cleaning machine or within the solvent cleaning machine enclosure exceeded 15.2 meters/minute and no correction was made within 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 Ohio EPA Northeast District Office. Each exceedance report shall be delivered or postmarked 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.
4. The permittee shall submit quarterly deviation (excursion) reports that include the following information on emissions unit L003:
- a. an identification of each day during which the average hourly organic compound emissions exceeded 0.96 pound per hour; and
  - b. all exceedances of the 12-month rolling organic material evaporation emission limitation in section A.1.

The quarterly deviation (excursion) reports shall be submitted in accordance with section 3.b of the General Terms and Conditions.

#### 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<sub>i</sub> = the potential to emit for the solvent cleaning machine i (kilograms solvent per year).

H<sub>i</sub> = hours of operation for solvent cleaning machine i (hours per year), 8760 hours per year, unless otherwise restricted by a federally enforceable requirement.

W<sub>i</sub> = 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.

SAI<sub>i</sub> = solvent/air interface area of solvent cleaning machine i (square meters). 40 CFR 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 using the procedure in section E.1.b. Cleaning machines that do not have a slovent area interface shall calculate a solvent/air interface area using the following equation:

$$SAI = 2.2 \times (Vol)^{0.6}$$

Where:

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

Vol = the cleaning capacity of the solvent cleaning machine (cubic meters).

Sum the PTE<sub>i</sub> for all solvent cleaning operations to obtain the total potential to emit for solvent cleaning operations at the facility.

2. Emission Limitation: 0.96 pound of organic compounds per hour

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be determined by the following equation:

$$ER = G \times SD/H$$

Where:

ER = emission rate (pounds per hour);

G = gallons of solvent used per month (as required by section C.7.a);

SD = solvent density (pounds per gallon); and

H = hours of operation (hours per month as required by section C.7.b).

3. Emission Limitation: 4.20 tons of organic compounds per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be based upon record keeping as specified in section C.8.

F. **Miscellaneous Requirements**

1. The permittee has submitted an initial notification report in accordance with 40 CFR 63.468(b).
2. The permittee has submitted an initial statement of compliance in accordance with 40 CFR 63.468(d).