

- 3a. Pursuant to 35 Ill. Adm. Code 215.204(j)(1), the clear coatings used for metal parts (plastic parts are not included) applied in the spray booth and dip tanks shall not exceed 4.3 lb VOM/gallon of coating (minus water and any compounds which are exempted from the definition of VOM) as applied at each applicator.
- b. Pursuant to 35 Ill. Adm. Code 215.204(j)(4)(B), all other coatings used for metal parts (plastic parts are not included) applied in the spray booth and dip tanks shall not exceed 2.8 lb VOM/gallon of coating (minus water and any compounds which are exempted from the definition of VOM) as applied at each applicator.
- 4a. Emission and operation of degreaser shall not exceed the following limits:

| Solvent Usage | | VOM Emissions | |
|--------------------|-------------------|--------------------|--------------------|
| <u>(Gal/Month)</u> | <u>(Gal/Year)</u> | <u>(Lbs/Month)</u> | <u>(Tons/Year)</u> |
| 123 | 1,230 | 1,500 | 7.5 |

These limits are based on maximum solvent usage, solvent density and VOM content of 12.2 lb/gallon, and emissions determined by material balance. 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.

Solvent usage shall be determined from the following equation:

$$U = V - (W \times P)$$

Where:

U = Solvent usage for compliance determinations (gallons).

V = Virgin solvent^A added to the solvent cleaning machines (gallons), as determined by daily addition log sheets.

W = Waste solvent^B removed from the solvent cleaning machines and sent off-site for reclamation or disposal, as determined by monthly manifests.

P = Percent concentration of solvent in waste, as determined by analysis/testing^C.

^A For purposes of this permit, virgin solvent is defined as unused solvent.

^B For purposes of this permit, waste solvent is defined as used solvent.

^C The percent concentration of solvent in waste (P) shall be determined in accordance with USEPA Test Methods for

Evaluation of Solid Waste, Physical/Chemical Methods
(SW-846), Test Method 8260.

- b. Compliance with the monthly organic material emission limits shall be calculated using the solvent density as specified in the Material Safety Data Sheet, and the solvent usage (U) per month, as follows:

$$\begin{aligned} \text{Emissions} &= \text{solvent usage (U)} \times \text{solvent density} \\ (\text{lbs/month}) &= (\text{gallon/month}) \times (\text{lbs/gallon}) \end{aligned}$$

- c. The Permittee shall use only trichloroethylene as solvent in the batch vapor degreaser.
- 5a. Emissions of volatile organic material (VOM) and operation of the spray coating booth and dip coating tank shall not exceed the following limits:

| <u>Material</u> | Usage | | VOM | VOM Emissions | |
|----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | <u>(Gal/Mo)</u> | <u>(Gal/Yr)</u> | <u>(Lb/Gal)</u> | <u>(Ton/Mo)</u> | <u>(Ton/Yr)</u> |
| Spray Booth Coatings | 300 | 3,000 | 3.03 | 0.46 | 4.55 |
| Dip Tank Coatings | 600 | 6,000 | 2.91 | 0.87 | 8.73 |
| Clean Up Solvent | 40 | 400 | 7.5 | <u>0.15</u> | <u>1.5</u> |
| | | | Total | 1.48 | 14.78 |

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

- b. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/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 Permit (CAAPP), and Section 112(G) of the Clean Air Act.
- 6. Each solvent cleaning machine must meet the following base design requirements, pursuant to 40 CFR, Part 63.463.
 - a. Each solvent cleaning machine must be equipped with an idling or downtime mode cover that completely covers the machine openings. The cover must be periodically inspected to ensure that it remains free of cracks, holes, and other defects. The cover must be closed at all times except during the cleaning, solvent removal, maintenance and monitoring of the degreasers.
 - b. A freeboard ratio of 0.75 or greater must be maintained for each solvent cleaning machine.

- c. Each solvent cleaning machine must have an automated parts handling system that handles parts from initial loading to removal of cleaned parts. If the Permittee wants to use manual hoist, the Permittee must demonstrate to the Illinois EPA that the hoist can never exceed 11 feet per minute.
 - d. Each solvent cleaning machine must be equipped with a liquid and vapor level control device(s) that shuts off the sump heat if the sump liquid level drops to the sump heater coils or the vapor level rises above the height of the primary condenser and such device(s) must be operational at all times.
 - e. Each solvent cleaning machine must be equipped with a primary condenser to provide continuous condensation or rising solvent vapors and to create a controlled vapor zone.
 - f. Each solvent cleaning machine with lip exhaust control must be controlled by a carbon adsorption unit.
7. The Permittee shall comply with the following work and operational practice, requirements and post in the work place a one page summary of work practices, pursuant to 40 CFR Part 63.463(d).
- a. Conduct maintenance as per manufacturer's recommendation to ensure that each solvent cleaning machine works properly. Any alternative maintenance practice must be approved by the USEPA.
 - b. Each solvent cleaning machine shall be covered to minimize air disturbances in the machine and the room at all times except during the cleaning, removal of solvent, maintenance and monitoring. If a cover cannot be used, air disturbances shall be controlled by Reduced Room Draft. Room draft shall not exceed 50 feet/minute.
 - c.
 - i. A speed of 3 feet/minute or less shall be maintained between entry and removal of parts basket or parts.

or

 - ii. Parts basket or parts size shall be less or equal to 50% of the solvent air interface area.
 - d. If cleaning operation involves spraying, spraying must be performed within the vapor zone (i.e., a baffled or enclosed area of the solvent cleaning machine).
 - e. The Permittee must ensure that parts or parts basket are positioned so that solvent drains freely and parts basket or parts are not removed from the machine until parts are clean and solvent dripping has stopped.

- f. During the startup, the Permittee must turn on the primary condenser prior to turning on the sump pump and during shutdown, turn off the sump heater prior to turning off the primary condenser.
 - g. The Permittee must add and remove solvent with leak-proof couplings. The end of the pipe or hose introducing or withdrawing the solvent be located beneath the liquid solvent surface (i.e., submerged filling) in the sump.
 - h. The Permittee must collect and store the waste solvent, still bottoms, and sump bottoms in a closed container. Absorbent materials such as sponges, fabric, wood, and paper products shall not be cleaned.
 - i. Each operator of a solvent cleaning operation must be ready to take and pass an Operator Test at any time during the normal operation of the plant.
8. Each solvent cleaning machine must meet the following control combination (freeboard refrigeration device, freeboard ratio of 1.0, and reduced room draft) requirements, pursuant to 40 CRR Part 63.463:
- a. For Freeboard Refrigeration Device (FRD), chilled air blanket temperature at the center of the air blanket shall not exceed 56.7°F while using trichloroethylene, respectively.
 - i. The temperature measurements must be conducted on weekly basis at the center of the air blanket above the vapor zone during the idling mode. The temperature measurements can be taken by attaching a thermometer or a thermocouple to the parts basket or hoist hook and lowering it into the machine so that it is in the center of the air blanket above the vapor zone.
 - b. For Reduced Room Draft (RRD), windspeed in room or within enclosure must be less than or equal to 50 feet/minute.
 - i. If windspeed in room is maintained by controlling room conditions, an initial test and a quarterly test shall be conducted to establish room condition. Also, room condition must be reestablished immediately if condition change. The Permittee shall monitor room condition every week.
 - ii. If windspeed in room is maintained by using a enclosure, an initial and a monthly test shall be conducted to measure windspeed in enclosure. Also, windspeed in the enclosure must be remeasured immediately if condition

change. The Permittee shall inspect condition of enclosure every month.

- c. i. The Permittee shall ensure and obtain certification from the manufacturer that the freeboard height is greater than or equal to the width of the interior freeboard. Freeboard ratio shall be determined by dividing the height of freeboard to the smallest interior freeboard width. If the freeboard ratio is less than 1.0 , the Permittee shall immediately correct the freeboard ratio.
 - ii. Record of Freeboard Ratio and any modification to the Freeboard Ratio.
- 9a. The Permittee shall comply with the following monitoring procedures requirements, pursuant to 40 CFR Part 63.466.
- i. The Permittee shall conduct monitoring and record the results on a weekly basis for Free Board Refrigeration Device, pursuant to 40 CFR Part 63.466(a)(1). A thermometer or thermo couple shall be used to measure the temperature at the center of the air blanket during the idling mode.
 - ii. The Permittee shall conduct an initial monitoring test of the windspeed and of room parameters, quarterly monitoring of windspeed, and weekly monitoring of room parameters as per following procedures, pursuant to 40 CFR Part 63.466(d).
 - A. Measure the windspeed within 6 inches above the top of the freeboard area of the solvent cleaning machine using the following procedure.
 - 1. Determine the direction of the wind current by slowly rotating a velometer or similar device until the maximum speed is located.
 - 2. Orient a velometer in the direction of the wind current at each of the four corners of the machine.
 - 3. Record the reading for each corner.
 - 4. Average the values obtained at each corner and record the average wind speed.
 - B. Monitor on a weekly basis the room parameters established during the initial compliance test that are used to achieve the reduced room draft.
 - C. 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 procedure specified above and a monthly visual inspection of the enclosure to determine if it is free of cracks, holes and other defects.

1. Determine the direction of the wind current in the enclosure by slowly rotating a velometer inside the entrance to the enclosure until the maximum speed is located.
 2. Record the maximum wind speed.
- b. The Permittee shall comply with the following monitoring procedures, pursuant to 40 CFR Part 63.466(c).
- i. 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).
 - ii. The monitoring shall be conducted monthly. If after the first year no exceedances of the hoist speed are measured the Permittee may begin monitoring the hoist speed quarterly.
 - iii. If an exceedance of the hoist speed occurs during quarterly monitoring the monitoring frequency returns to monthly until another year of compliance without an exceedance is demonstrated.
 - iv. If the Permittee can demonstrate to the Illinois EPA's satisfaction in the initial compliance report that the hoist cannot exceed a speed of 11 feet per minute, the required monitoring frequency is quarterly, including during the first year of compliance.
- 10a. The Permittee shall retain the following records on paper or computer disk for the lifetime of the solvent cleaning machine, pursuant to 40 CFR Part 63.467(a):
- i. An owners manual or a written maintenance and operating procedure for each machine and each piece of control equipment.
 - ii. The installation date of each machine. If installation date isn't available, a letter certifying that machine was installed prior to or on or after November 29, 1993, to determine compliance option for existing or new source.
 - iii. Records of the halogenated HAP solvent content of each solvent used in each solvent cleaning machine.

- b. The Permittee shall retain the following records in electronic or written form for a period of 5 years, pursuant to 40 CFR Part 63.467(b).
 - i. The results of control device monitoring required under 40 CFR Part 63.466.
 - ii. The Permittee shall keep the weekly freeboard air temperature measurements.
 - iii. The Permittee shall keep weekly record of room condition and windspeed.
 - iv. Record of freeboard ratio and any modification to the freeboard ratio.
 - v. Estimates of annual solvent consumption for each solvent cleaning machine.
- c. The Permittee shall maintain records of the following items:
 - i. Name and identification of each coating and clean up solvent used in the spray booth and dip tank;
 - ii. Amount of each coating and cleanup solvent used in the spray booth and dip tank;
 - iii. VOM and HAP content (including water and other compounds) of each coating and clean up solvent used;
 - iv. VOM content of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) applied at each applicator;
 - v. Amount of solvent used in the degreaser by keeping records of the virgin solvent added to the process (gallon), certified amount of waste shipped off for recycling (gallon), certified VOM content of waste solvent (wt %), and using the equation in Condition 4a (gallon/month and gallon/year); and
 - vi. Detailed calculations of VOM emissions.
- 11. The Permittee shall comply with the following reporting requirements, pursuant to 40 CFR Part 63.468:
 - a. An initial statement of compliance report demonstrating each machine is in compliance must be submitted no later than 150 days after startup. The initial compliance report shall include the following:
 - i. Name and address.

- ii. Facility location address.
 - iii. A list of control equipment (i.e., FRD, RRD) used on each machine to comply with the rule.
 - iv. For each piece of control equipment required to be monitored, a list of the parameters that are monitored and the values of these parameters measured on or during the first month after the compliance date.
 - v. For RRD, the weekly record of room temperature and windspeed or monthly enclosure inspection results and windspeed measurement.
- b. An annual compliance report must be submitted by February 1, of the year following the year the report covers. The compliance report shall include the following:
- i. A statement, signed by the owner or operator or someone designate, 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 by 40 CFR 63.463(d)(10)."
 - ii. Solvent consumption and HAP emissions for each machine in lb/month and ton/year, for the reporting period.
- c. An exceedance report shall be submitted every 6 months if there is not an exceedance, and every 3 months if there is an exceedance. If an exceedance did not occur the report would consist of a statement certifying that there were no exceedances. The frequency of the exceedance report will increase to quarterly after an exceedance occurs. The quarterly exceedance report shall include the following:
- i. Information on the actions taken to comply with 40 CFR Part 63.463(e) and (f). This information shall include 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.
 - ii. If an exceedance has occurred, the reason for the exceedance and a description of the actions taken.
 - iii. If no exceedances of a parameter have occurred, or a piece of equipment has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

- d. The Permittee shall submit an exceedance report 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.
 - e. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least 5 years, unless specifically stated in the permit, from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request. Any records retained in a computer shall be cable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA 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

14. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: coating, clean up solvent and degreaser solvent usage and VOM and HAP emissions from the prior calendar year. If there has been no exceedance of a requirement of this permit during the prior calendar year, the annual emission report shall contain a statement to that effect.

Page 11

It should be noted that the boilers and fuel combustion emissions from the dryer are exempt from state permit requirements, pursuant to 35 Ill. Adm. Code 201.146(c) and (fff), respectively.

If you have any questions on this, please call Tara T. Nguyen-Ede at 217/782-2113.

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

DES:TNE:psj

cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the Coating and Degreasing 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 well below the levels, e.g., 25 tons per year for volatile organic material (VOM) and 10 tons per year for single hazardous air pollutant (HAP) and 25 tons per year for total HAPs 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.

- 1a. Emission and operation of degreaser shall not exceed the following limits:

| Solvent Usage | | VOM Emissions | |
|--------------------|-------------------|--------------------|--------------------|
| <u>(Gal/Month)</u> | <u>(Gal/Year)</u> | <u>(Lbs/Month)</u> | <u>(Tons/Year)</u> |
| 123 | 1,230 | 1,500 | 7.5 |

These limits are based on maximum solvent usage, solvent density and VOM content of 12.2 lb/gallon, and emissions determined by material balance. 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.

Solvent usage shall be determined from the following equation:

$$U = V - (W \times P)$$

Where:

U = Solvent usage for compliance determinations (gallons).

V = Virgin solvent^A added to the solvent cleaning machines (gallons), as determined by daily addition log sheets.

W = Waste solvent^B removed from the solvent cleaning machines and sent off-site for reclamation or disposal, as determined by monthly manifests.

P = Percent concentration of solvent in waste, as determined by analysis/testing^C.

^A For purposes of this permit, virgin solvent is defined as unused solvent.

^B For purposes of this permit, waste solvent is defined as used solvent.

c The percent concentration of solvent in waste (P) shall be determined in accordance with USEPA Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW-846), Test Method 8260.

b. Compliance with the monthly organic material emission limits shall be calculated using the solvent density as specified in the Material Safety Data Sheet, and the solvent usage (U) per month, as follows:

$$\begin{aligned} \text{Emissions} &= \text{solvent usage (U)} \times \text{solvent density} \\ (\text{lbs/month}) &= (\text{gallon/month}) \times (\text{lbs/gallon}) \end{aligned}$$

c. The Permittee shall use only trichloroethylene as solvent in the batch vapor degreaser.

2a. Emissions of volatile organic material (VOM) and operation of the spray coating booth and dip coating tank shall not exceed the following limits:

| <u>Material</u> | <u>Usage</u> | | <u>VOM</u> | <u>VOM Emissions</u> | |
|----------------------|-----------------|-----------------|-----------------|----------------------|-----------------|
| | <u>(Gal/Mo)</u> | <u>(Gal/Yr)</u> | <u>(Lb/Gal)</u> | <u>(Ton/Mo)</u> | <u>(Ton/Yr)</u> |
| Spray Booth Coatings | 300 | 3,000 | 3.03 | 0.46 | 4.55 |
| Dip Tank Coatings | 600 | 6,000 | 2.91 | 0.87 | 8.73 |
| Clean Up Solvent | 40 | 400 | 7.5 | <u>0.15</u> | <u>1.5</u> |
| | | | Total | 1.48 | 14.78 |

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

b. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/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 Permit (CAAPP), and Section 112(G) of the Clean Air Act.